Lecture

ON

HEPATOPTOSIS, GLÉNARD'S DISEASE, AND MOVEABLE KIDNEY.

Delivered at the Medical Graduates' College and Polyclinic on Feb. 12th, 1906,

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GENTLEMEN,—Mobility of various abdominal organs is a [illegible] which is fully recognised as occurring in a certain number of instances, but I doubt if its significance, gravity, and frequency are adequately appreciated. The symptoms [illegible] may arise in connexion with these conditions are so [illegible] and so vague and are associated with such disturb-[illegible] of the nervous system that the sufferers are often put down as neurotics and their ailments as fanciful exaggerations. Nevertheless, I believe that in many of these supposed hysterical cases the troubles are very real and are due to [illegible] descent of one or other or all of the abdominal viscera. This mobility may affect one or several of the [illegible] organs. Those chiefly concerned are the kidney, the liver, the stomach and intestines, and the spleen. I shall [illegible] shortly to the first three.

MOVEABLE KIDNEY.

This is the most common and most generally recognised condition and it may occur alone or in association with general mobility of the abdominal organs. Most often the latter is the case. The right kidney is the one chiefly ected. The condition varies from slight mobility to a freely moveable or "floating" kidney. It may occur [illegible]ly; that is, the patient may have been making some violent exertion or been subjected to some severe strain and then have pain in the side, usually the right, and on examination descent of the kidney can be detected. Here there is probably a true dislocation of the organ. Or, again, [illegible] patient consults a surgeon on account of some or other [illegible] the symptoms mentioned below and on examination a moveable kidney is found. Or, again, a moveable kidney is found during the course of an abdominal examination without any symptoms pointing in that direction having been present. In the two latter cases the mobility of the kidney may have existed for a long time and the pedicle has no [illegible] gradually stretched as time went on. In some cases [illegible] may be induced and it is certainly aggravated by injudicious application of corsets; it may occur where a patient rapidly emaciates; or after distension of the abdomen [illegible] in pregnancy, where the abdominal walls become lax for [illegible] time; and it is commonly present in cases of hepatoptosis and enteroptosis.

In connexion with mobility of the kidney we may have great variety of symptoms. A slight degree of mobility or very marked degree such as that known as floating kidney [illegible] give rise to no symptoms. The intermediate cases [illegible] the kidney can descend into the loin but not further [illegible] the important ones. To some extent this is because the [illegible] comes to lie in a position where it is subject to [illegible] from corsets, waist bands, &c., or is affected by [illegible] of the body. In such cases the patients complain [illegible] dragging pains in the back and side and general abdominal discomfort, and these troubles are still more [illegible] if the mobility of the kidney is associated with hepatoptosis or enteroptosis. These symptoms are probably due to the weight of the organ and consequent dragging [illegible] the pedicle. More serious symptoms may, however, [illegible]ually arise. For example, the kidney may from time to time press on the duodenum, causing temporary obstruction, with vomiting, pain, and a group of symptoms known [illegible] Dietl's crises, and if this is frequently repeated or long [illegible] it may lead to dilatation of the stomach and general dyspepsia. A variety of troubles may also arise in connexion with the kidney itself. It tends to become congested from time to time from obstruction to the vessels, while kinking of the ureter may also take place, leading to attacks of intermittent hydronephrosis. This latter condition, whether associated with kinks in the ureter or malposition of the ureter with reference to the pelvis, &c., chiefly occurs where the kidney is moveable.

Much dispute exists as to how far the symptoms of which these patients complain are really due to the mobility of the kidney or are essentially of a neurotic character. This question can hardly concern the severer cases (Dietl's crises, intermittent hydronephrosis, &c.) which are too definite to be neurotic, but has special reference to the cases where there are merely pain in the back and side and a general sense of discomfort. Some look on the local and general symptoms in these instances as essentially neurotic in character and the mobility of the organ as of comparatively little moment, while others regard the mobility as a serious condition and the various symptoms as being directly due to it. The point is a very important one, as the line of treatment adopted by different practitioners depends on the view they take.

The treatment of moveable kidney is either to ignore it or to attempt in various non-operative ways to keep it in its place and to relieve the symptoms or to fix it by operation. As to the first suggestion, that of ignoring it, so long as the condition is giving rise to no symptoms whatever and has only been found accidentally on examination I presume all are agreed that it is best to ignore it and in no way to draw the patient's attention to it. Where, on the other hand, very marked symptoms are present—e.g., Dietl's crises, intermittent hydronephrosis, hæmaturia, &c.—I have no hesitation in saying that operative treatment is essential, either fixation of the kidney alone or, where intermittent hydronephrosis occurs, fixation combined with such plastic operation on the ureter as may be considered necessary, or in bad cases even nephrectomy. It is the intermediate cases which are open to doubt. That there is often a large amount of neurosis in these cases is certainly true but I see no reason for doubting that the pains of which the patients complain are real; indeed, the wonder is that in some cases the kidney can move as it does without causing pain, and it is probable that it is the constant dragging pain and other symptoms which induce the neurotic condition.

Various methods of treatment are employed to remedy this looseness of the kidney and at the same time to improve the general neurasthenia without operation. For example, Weir-Mitchell treatment, followed by change of air and scene, has been much employed with varying success. Various pads and supports are fitted on to keep the kidney in place. Attempts are also made to increase the fat, &c., and so to get back the fatty pad. None of these methods are, however, really satisfactory and pads especially are very prone to become displaced in the movements of the abdominal muscles or so lifted up that the kidney slips down beneath them and is thus no longer supported and may, indeed, become injuriously pressed upon by the pad itself. Better than pads are probably Gallant's corsets, of which I shall speak later.

These attempts, however, frequently fail to relieve the patient completely and, where the symptoms continue to be constant and severe, the patient may still ask that something should be done. Then arises the question of nephrorrhaphy. Some physicians object to this operation *in toto*, their chief arguments being that the kidney may become loose again, that a good deal of pain may be set up by the operation, and that the whole symptoms may speedily recur, the recurrence being ascribed to, and accepted as a proof of, the essentially neurotic character of the trouble. These objections, however, are hardly sound. That the kidney has frequently become loose after nephrorrhaphy may have been true in the early days of the operation, but this is merely a matter of technique and it is really easy enough to fix the kidney satisfactorily. The essential points in the operation are, I think, firstly, the free removal of the fatty capsule, so that the kidney can come into close apposition with the fascia over the abdominal wall; and, secondly, free stripping up of the capsule of the kidney, so as to leave a raw place for adhesion. That pain may be left after the operation is also correct, but is, I believe, due in part to inclusion of dorsal nerves in the ligature and in part to the position in which the kidney is usually fixed. It is very difficult, indeed almost impossible, to fix the kidney as high up as it normally lies and usually a considerable part of it is left in the lumbar region below the ribs. In that situation it is subjected to the pressure of the corsets and bands for the clothing and much pain may thus be caused. It is, therefore, most important to fix the kidney as high up beneath the ribs as possible. For this purpose I believe that a free incision along the lower border of the ribs and parallel to them is best. It should be of considerable length; the peritoneum is pushed forwards and the kidney fixed high up. That the whole symptoms may recur when the patient gets up is also true, but I believe that the explanation is not that the symptoms associated with moveable kidney are essentially neurotic, but that in these unsuccessful cases the kidney condition is only part of a general enteroptosis and therefore the fixation of the kidney only does very little towards remedying the trouble; in fact, does not touch the essential part of it. Hence, while I advocate fixation of the kidney by operation in suitable cases where other means have failed and where the symptoms are sufficiently severe, I think that this question of enteroptosis ought to be looked into carefully before proceeding to operation and if there is evidence of hepatoptosis or enteroptosis these must be attended to before the kidney is dealt with. In any case of nephrorrhaphy the corsets recommended in speaking of enteroptosis should be worn afterwards.

HEPATOPTOSIS.

Abnormal mobility of the liver was at one time looked on as very rare but in reality it is not at all uncommon and is probably present to a greater or less degree in most cases of enteroptosis. It may also be responsible for many cases of vague abdominal discomfort, while when fully developed it produces most serious symptoms which will be presently referred to. In these cases the healthy liver becomes moveable and hangs down into the abdominal cavity as far as its attachments will allow and at the same time it undergoes marked rotation. It is freely moveable and may be replaced by manipulation. We must distinguish this condition from a simple "dislocation of the liver." A liver may be dislocated to some extent from its normal position by tight corsets, waistbands, spinal deformities, especially kyphosis, pleuritic effusions, &c.; but it merely lies lower than normal and does not undergo the rotation and change in position which occur in the other cases, and may not, therefore, give rise to serious trouble.

It is most important to bear in mind that the wandering liver does not merely descend from underneath the ribs, but, as it comes down, its descent is resisted towards the middle line, especially about the level of the junction of the right and left lobes, and thus the heavy right lobe continues to come down and to render this possible the whole organ has to rotate forwards and to the left. Thus the sinking of the right lobe leads to a corresponding rise in the left lobe and the whole organ becomes more vertical as well as being rotated; indeed, the liver may become so vertical that the left lobe in bad cases may be in the right hypochondrium, while the right lobe may reach to the pelvis. The hollow thus left under the right side of the diaphragm becomes filled up by the intestines. This displacement of the liver is a very important point to bear in mind, because it cannot be remedied by merely pushing the organ up; the rotation must be undone at the same time.

Another condition of the liver which is also not uncommon and which may or may not be associated with wandering liver is where the edge of the liver, generally of the right lobe, is flattened out and this thin layer of liver may extend downwards for a considerable distance and is generally marked off from the body of the liver by a deep furrow in which is much fibrous tissue. Various states of the liver may be found in which furrows caused by the pressure of the ribs or pillars of the diaphragm are present, but the above is the chief form which gives rise to symptoms and which therefore need be referred to. It is essentially due to wearing tight bands round the waist, either with or without corsets. With tight-lacing the edges of the ribs instead of sticking out press in and produce a furrow and the formation of fibrous tissue at that part. Thus a portion of the edge of the liver may be cut off from the main mass more or less completely by fibrous tissue. The lobe thus formed may become much thinned and flattened out and thus spread over a considerable portion of the right side of the abdomen. This flattening is probably effected to a great extent by the pressure of tightly laced corsets.

The important condition, and the one to which I particularly wish to refer, is that of wandering liver. Normally, the liver is held up by the tissue between a portion of posterior part of the upper surface of the liver and under surface of the diaphragm (the fixed part). This f a sort of triangular space which is surrounded by peritoneum as it is reflected from the upper of the liver to the under surface of the diaphragm. peritoneum around this space is called the coronary li and on each side the thicker double layers of peritoneum called the triangular ligaments. Then we have suspensory or falciform ligament running from the back the anterior abdominal wall in the middle line from the of the umbilicus upwards to the upper surface of the Its function is not so much to suspend the liver as to the right lobe sliding too much downwards and to the It is loose when the stomach is empty but becomes when the stomach is full and the liver is pushed towards right side. The round ligament which passes in the border of the suspensory ligament to the under surface of liver has also apparently much the same function. A important agent in keeping the liver in place is also the nexion with the vena cava and it is this which chie prevents the total descent of the liver and leads to t rotation. In fact, the rotation of the liver, to whi reference has been made in cases of hepatoptosis, occ around the vena cava. Among the other factors which ke the liver in its place is the negative intrathoracic pressu Once the liver is displaced downwards from the diaphrag it is sucked down still more by the atmospheric pressure a the intestines pass up between it and the diaphragm and a to the troubles of the patient.

Causation of hepatoptosis.—Those who have written on th subject have for the most part come to the conclusi that two factors generally come into play—viz., (1) so anatomical (? congenital) abnormality by which certain live are already ready to wander on suitable impulses; a (2) mechanical impulses, which, however, are not sudd but long-continued in their action. The supposed anatomic predisposition consists in some looseness or weakening of t fixation arrangements. Too long a coronary ligament h been suggested but not proven. Others think that the co nective tissue between the vena cava and the spine may looser than normal and allow of greater mobility. Other again, look on a congenital shortness of the round ligame as the chief agent. Langenbuch holds that this conditi begins, not as a descent of the liver from the diaphrag but as a rotation of the liver forwards around the vena cav This increases the tension of the round ligament and if th rotation is continued that ligament brings the liver near to the umbilicus, especially if the ligament is congenitall short. As the dislocation proceeds the suspensory ligame also becomes stretched. That the vena cava plays an important part is evidenced in some cases by disorder of th venous circulation. As the liver rotates around the vein pulls on it, shortens the intrathoracic portion, and may lea to such interference with the venous return that a capu Medusæ may form at the upper part of the abdomen. Th impulses which induce the descent of the liver are ver various and more or less long-continued. They are no sudden and severe injuries, otherwise we should expect th condition to be much more frequent than it is and mor common in men than in women.

Among the most important agents in leading to hepato ptosis are relaxation of the abdominal walls, as afte repeated pregnancies and the wrong use of corsets and band around the waist in connexion with tight-lacing or th support of heavy clothing. These points will be speciall referred to in speaking of enteroptosis and the remarks then made apply equally to the production of hepatoptosis Other causes which lead to descent of the liver in cases pre disposed to it are marked kyphosis and various conditions o the thorax—e.g., constriction of the thorax, pleural effusions long-continued cough and whooping-cough, emphysema o the lungs, &c.; also heart troubles, giving rise to increase size and weight of the liver, and so on.

Dr. A. Keith, in his excellent lectures on Enteroptosis, states that enteroptosis is due to the upsetting of the balanc between the inspiratory and expiratory muscles. He look on active contraction of the crura of the diaphragm as th most important factor. According to him there are two causes of displacement of the liver and the stomach—viz., relaxation or paresis of the abdominal muscles which maintain the shelf on which these organs are supported, and

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[1] THE LANCET, March 7th (p. 631) and 14th (p. 709), 1903.

constriction of the abdominal cavity by clothing, or contortion by disease, preventing the forward rotation of these organs during respiration. Corsets, by pushing in the ribs, make the action of the costal fibres of the diaphragm more vertical and thus more active in pushing down the viscera.

Symptoms.—This condition of the liver is associated with enteroptosis, but apart from the symptoms due to that condition the dragging of the liver and the pressure caused by it in its new position must give rise to very great discomfort to the patient. The symptoms are often distractingly vague and as this condition is always associated with enteroptosis the indefinite symptoms which are there present are met with here also. Among them may be mentioned various gastric troubles. As the result of the displacement of the liver the pyloric orifice of the stomach may become pressed upon or kinked, with the result that dilatation of the stomach may ensue with various dyspeptic symptoms, vomiting, meteorismus, &c. The intestines which crowd up behind the liver may also become pressed on from time to time and much flatulent disturbance is thus caused. In addition, the weight of the liver and its presence in a faulty position give rise to much general abdominal discomfort, dragging pain, &c. Jaundice and gall-stone colic may also arise from kinking of the bile-ducts and gall-stones are not uncommon. Symptoms may arise also as the result of paresis of the intestine and circulatory disturbances.

The general symptoms are often extremely vague and it may be impossible to focus the trouble at any one part. There is pain practically all over the abdomen but it seems to radiate from the epigastric region. In a case on which I operated the pain at the lower pain of the abdomen was described as a dragging pain, while that at the upper part was more of a burning character, extending through to the back and upwards into the shoulders. The latter pain was much worse on lying down than on standing up. Reflexly there may be general nerve disturbances, such as hysterical attacks, giddiness, &c. There are frequently also marked loss of flesh, obstinate constipation, and sometimes mucous colitis.

The examination of the patient should be conducted both in the recumbent and in the erect posture. If the examination is limited to the recumbent position it may be that in the milder cases the liver completely recedes beneath the ribs and the condition is overlooked. When the patient is sitting or standing, however, the liver may be felt descending below the ribs or even forming a large tumour in the abdomen to the right side of the middle line, sometimes extending as low as the pelvis, and capable of being moved upwards and towards the right. The surface of this tumour is smooth, its sharp border may be detected, and also in some cases the gall-bladder. On percussion a very important point in marked cases is that the lung resonance merges into the intestinal resonance behind as the result of the intestines passing up behind the liver.

As regards the cases where a flattened lobe is formed that only occurs in grown-up women and there is a history of long-continued constriction of the waist, either with or without corsets, worst in cases where no corsets are worn The general symptoms are much the same as those just mentioned. In these cases the portion of the liver which is affected may be so thin as to produce no evidence of dulness on percussion and the edge may also be missed on examination. In fact, the more solid portion of the liver coming down beneath the ribs at each inspiration may be looked upon as the ill-defined margin of the liver.

Treatment.—The treatment of hepatoptosis is a very difficult matter. Usually it consists in a rest cure and in the employment of abdominal belts or bandages. These belts are of very doubtful value and this to some extent is due to the fact that they are applied while the patient is in the erect posture, that they do not come low enough, and are too tight at the upper part. Attempts have been made to support the liver by corsets or belts applied while the patient is in the recumbent position, especially tight around the pelvis, sometimes in addition with pads over the iliac fossæ, and loose at the upper part, the idea being to crowd up the intestines so as to diminish their drag and also to utilise them as a pad to support the liver and kidney. In mild cases a considerable amount of comfort may be obtained in this way and the patient may be content with the result, but in the more severe cases the relief obtained is comparatively slight. Hence the question of some possible operative measure has to be considered and I have recently in two cases made an attempt to fix the liver in its normal position by means of stitches and in both cases, at first at any rate, with remarkable relief to the patients. On looking up the literature I find that a few operations of this kind have been done but they are very few and apparently have not attracted much attention. In most of the cases in which the operation has been done benefit is said to have resulted.

The principle of the operations which I have done was to replace the liver in its normal position and to try to promote adhesions between it and the diaphragm. The replacement of the liver is sometimes a little troublesome unless one bears in mind the double deformity—namely, the descent of the organ and its rotation forwards In replacing it, therefore, the first step must be to rotate it backwards and to the right, and then, making sure with the finger that there is nothing between it and the diaphragm, to push it upwards and backwards into its normal position. The second aim of the operation—namely, the fixation of the liver in its normal position—is obtained in two ways. In the first place, it is desirable to get as broad an adhesion between the liver and diaphragm as possible and this I did in my cases by sponging the upper surface of the liver with undiluted carbolic acid so as to set up a certain amount of peritonitis and effusion over the greater part of the surface. With the view of holding the liver in its place while adhesion occurred several silk stitches were passed between the upper surface of the liver and the diaphragm. In the second case I first introduced a couple of silk stitches running from left to right high up on the upper surface of the liver, carrying them under the capsule of the liver for a distance of about one and a half to two inches in each case. One of these stitches was placed near the suspensory ligament and the other as far to the right as possible. The two ends were then passed through the surface of the diaphragm, taking hold of the muscular coat, and when these stitches were tied the liver was for the time retained in position. In addition, one or two vertical stitches were passed under the capsule in a similar manner towards the lower margin of the liver, the ends being brought out above and below the costal cartilages immediately over them, and these stitches were tied over the cartilages. Lastly, the free edge of the liver was stitched to the peritoneum and muscular walls of the abdomen along the greater part of its course. This fixation by stitches must be carefully and elaborately done because the liver is such a heavy organ that unless a good adhesion is obtained it will in all probability very soon break loose.

As regards the subsequent treatment. the patient should be kept in bed in the recumbent position for about six weeks and before she is allowed to sit up should be fitted with corsets which are laced up tight below and loose above so as to hold up the intestines. It may also be advisable to place pads over the iliac regions beneath the corsets so as to hold up the intestines still further, but these are not absolutely necessary if the corsets get a good hold of the lower part of the abdomen. These corsets will be again referred to in speaking of enteroptosis.

The suggestion has been made that the round ligament should be divided because it is held by some to play an important part in pulling the liver downwards and forwards. I did not do this, but in another case I should certainly examine the state of matters as regards this ligament and it could, of course, be perfectly easily divided if it were thought necessary.

The results in the two cases which I have had were in the first instance very good and in the last case, where greater care was taken in the procedure, the liver seems, for the present at any rate, to have retained its position. In this case, which was combined with marked general enteroptosis, I also stitched up the pyloric end of the stomach and the hepatic flexure of the colon to the under surface of the liver; but I did not deal with the moveable kidneys nor with the colon on the left side. When last seen the patient was complaining of discomfort and dragging pain on the left side, especially when and after the bowels act. This seems to be more especially referable to the descending colon and the loose left kidney. Whether these should be fixed also or whether suitable corsets would remedy matters it is difficult to say. I have not as yet been able to induce her to come into hospital again to have corsets fitted.

The conclusion I have at present come to as regards operation in cases of hepatoptosis is that, where it is necessary, careful stitching of the liver, with the subsequent use of Gallant's corsets, is all that is advisable in the first instance. Subsequent fixation of kidneys, &c., may be felt for future consideration. Where combined with marked enteroptosis further procedures to be mentioned presently may be required.

ENTEROPTOSIS.

The condition of descent of the alimentary tract, or enteroptosis, also often spoken of as Glénard's disease, is not uncommon and chiefly affects the stomach and the large intestine. It is frequently associated with moveable kidney and sometimes with hepatoptosis, probably more frequently with a slight degree of hepatoptosis than is quite realised. The inciting causes of this condition are various but the following are the two most important—viz., distension of the abdomen as in repeated pregnancies with consequent flaccidity of the walls and the management of the feminine clothing, especially the erroneous use of corsets. Hence it is that this condition is comparatively rare in men as compared with women. A pendulous state of the abdomen and separation of the recti is a very important factor. In these circumstances the intestines lose their natural support and are actually dragged down because no vacuum can be left. This drag will also tell on the liver and kidneys and thus a general descent of the abdominal organs is brought about. As regards the management of the clothes, the chief factor is the weight of clothing which is hung round the waist. The use of corsets is often blamed as the essential cause, but, while tight-lacing is no doubt a frequent source of trouble and may lead to flattening out of the right lobe of the liver, stretching of the omentum, &c., corsets when properly used are not without value. The great advantage of corsets is that they help to protect the abdomen from constriction by the tapes and bands used in suspending the nether garments. Where no corsets are worn and the garments are kept on in this way these bands and tapes are a fruitful source of trouble and probably do as much harm as tight corsets. Ladies who give up the use of corsets must suspend their garments over the shoulders. Apart from tight lacing the chief objection to corsets is their wrong application, especially in cases where there is a tendency to descent of the abdominal contents. Corsets are usually put on while the patient is in the erect posture and they are apt to be drawn too tight at the upper part. The former is a very important point in patients with a tendency to enteroptosis. If a patient suffers from hernia the rule is that before applying his truss he shall lie down, replace the hernia, and apply the truss while in the recumbent position; and the same rule should hold good in regard to putting on corsets in cases with a tendency to enteroptosis. If the corsets are put on and tightened up in these cases while the patient is in the erect posture the abdominal organs are hanging down and held in that position, and when the additional weight of the petticoats, &c., is added they are still more pulled down and the condition consequently aggravated.

The symptoms are of a similar character to those of hepatoptosis but on the whole they point more to the gastro-intestinal tract. Among these are chronic dyspepsia, pains in the epigastric region and between the shoulders and over the abdomen generally, chronic constipation often very marked, mucous colitis, often a marked neurasthenic condition, and loss of weight and strength. The whole condition is often most difficult to make out and the cases are frequently classed as abdominal hypochondriasis. The statements of the patient are very often inconsequent and so confused that one can make nothing out of them. The shape of the abdomen is very characteristic. Gallant[2] has made curves of the abdomen in these cases which show that while in the healthy abdomen in the erect posture without any clothing the point of maximum protrusion is above the umbilicus, in Glénard's disease the maximum protrusion is well below this point and there is a hollow above. In examining the abdomen in these cases he first measures the waist with the corsets and clothing on and then, having removed them, applies a band around the waist in the same position as the narrowest part of the corsets, tightening it up till the measurement is the same as before undressing. He is thus able to see what the exact change in shape is as influenced by the clothing and he finds a very remarkable increase in the protrusion of the lower part of the abdomen in these cases when the clothing has been put on. In the recumbent position in cases of enteroptosis the point of greatest prominence is above the umbilicus, while normally it is below. Beyond the general pendulous condition of the abdomen and its shape there is nothing much to be made out on examination, unless in cases where the liver, [illegible] kidneys, or spleen are also moveable.

As regards the treatment of Glénard's disease, Gallant lays down rules for the rest cure and for the use of corsets which he has devised and to which I have previously referred. His principle as regards the use of corsets is, in the first place, to allow the prolapsed viscera to resume their natural position by gravity, laying the patient upon her back in order that the organs may return to their proper position, this being facilitated by rubbing or stroking the abdomen. Secondly, while lying on the back, she is measured for a corset which must fit closely over the hips and suprapubic region, but must afford sufficient room above the umbilicus for the replaced colon and stomach. Thirdly, when putting on the corset the patient places it around her waist, lies down upon the bed or couch, flexes her knees, and raises her hips, so as to further the visceral replacement and, while in this posture, fastens the corset, beginning from below upwards. Fourthly, in lacing the corset two strings are used, one beginning at the bottom and lacing up to the first eyelet below the waist line, and this lace must be drawn as tightly as can be borne; the second begins where the lower one leaves off and is laced up to the top and must never be drawn tight. Any tendency of the corset to ride upwards indicates that it has not been laced tightly enough below the waist, or that it has been laced too tightly above, or that the corset is too large. With this corset Gallant states that belts, binders, and pads can be done away with. In some cases pads may be placed in each iliac fossa below the corsets, especially where the patient is spare. In others a broadish band may be tightly buckled around the lower part of the corset.

Various surgical operations have been suggested in these cases but they are not always satisfactory. Gastroplication has been suggested, but its value is very doubtful. Gastro-enterostomy has also been employed with temporary advantage. Suturing the prolapsed stomach to the abdominal wall has been done with relief in some cases. Shortening the gastro-hepatic omentum, thus leaving the stomach mobile, is said to have done good. In my case I not only fixed the liver but also attached the hepatic flexure of the colon and the pyloric end of the stomach to the under surface of the liver. The subsequent course of the case rather implies that the splenic flexure of the colon might with advantage have been fixed also, but that would mean a fresh incision with consequent prolongation of the operation. Fixation of the liver itself has been already mentioned. Suture of the abdominal walls where the recti are separated, thus relieving the weakness of the abdominal wall and the pendulousness of the abdomen, has also had good results.

Of these various measures, in cases where there is no hepatoptosis I should say that shortening the gastro-hepatic omentum and suturing the abdominal walls and the subsequent use of Gallant's corsets would be the most satisfactory method of procedure. Where hepatoptosis is present the liver should also certainly be fixed. The question of fixing the kidneys or colon might be left till the result of the former operations and of the use of the corsets is seen.

LONDON HOSPITAL MEDICAL COLLEGE.—The following sums have been received during March for the Endowment Fund of this College: Anonymous, through the Hon. Sydney Holland, chairman of the London Hospital, £500; Mr. E. P. Thompson, £100; and Mr. Martin Sutton, £5 5s. In addition the anonymous donor has promised a further sum of £1000 provided an additional sum of £5000 be obtained by August 1st from others. It is earnestly hoped that by the kindness and liberality of those who know the London Hospital Medical College and the excellent work carried on there the required amount may be forthcoming by that time.

THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The sixty-second annual meeting of the American Medico-Psychological Association will be held at Boston, Massachusetts, from June 12th to June 15th inclusive. The address of welcome will be given to the association by Curtis Guild, Governor of the Commonwealth of Massachusetts. A number of papers will be read and a symposium on dementia will be held. On Jan. 16th the members of the council of the association held a meeting in New York City, where resolutions expressive of the regret of the association at the death of Dr. Emmet Cooper Dent, the late secretary, were directed to be forwarded to the family of Dr. Dent.

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[2] International Clinics, vol. i., fifteenth series, 1905.

The Lumleian Lectures

ON

TABES DORSALIS.

Delivered before the Royal College of Physicians of London on March 22nd, 27th, and 29th,

BY DAVID FERRIER, M.D. EDIN., F.R.S.,

FELLOW OF THE COLLEGE, PROFESSOR OF NEURO-PATHOLOGY IN KING'S COLLEGE, LONDON; PHYSICIAN TO KING'S COLLEGE HOSPITAL; AND PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE, BLOOMSBURY.

LECTURE II.[1]

Delivered on March 27th.

MR. PRESIDENT AND GENTLEMEN,—In health the centrifugalised deposit from the cerebro-spinal fluid contains scarcely any cellular elements beyond an occasional endothelial cell and perhaps from one to three lymphocytes in a field with a magnification of 400 diameters. In certain diseases the cellular elements are present in excess. In acute microbic affections of the cerebro-spinal meninges, as by staphylococcus, pneumococcus, and diplococcus intracellularis, a leucocytosis occurs in which the leucocytes are of the polynuclear type. On the other hand, in certain chronic affections of the meninges—syphilitic, tuberculous, &c.—an excess of leucocytes also occurs These are of the mononuclear type—in other words, there is a lymphocytosis. It has been shown by Widal, Sicard, Ravaut, and others, and their observations have been confirmed by my own and Purves Stewart's investigations, that in tabes, as well as in general paralysis of the insane, from the earliest to the latest stages there is a marked lymphocytosis of the cerebro-spinal fluid. I have in several instances relied on this lymphocytosis as establishing the diagnosis of general paralysis before there were any abnormalities of the pupils or other physical signs characteristic of the disease. In a case of tabes or general paralysis, instead of two or three as in the normal state, one may count a hundred or even several hundred lymphocytes in the field of the microscope. At first sight this lymphocytosis would seem to confirm the views of those who ascribe the disease to a syphilitic affection of the meninges, either generally, or of Nageotte's meningeal root sheath, or of the posterior lymphatic system of the spinal cord, as maintained by Marie and Guillain. But lymphocytosis occurs in other affections in which meningitis, syphilitic or otherwise, plays no part. Thus it has been found in Landry's paralysis, in the subacute combined degeneration of pernicious anæmia (Purves Stewart), and in herpes zoster (Sicard). Lymphocytosis cannot, therefore, be regarded as pathognomonic of meningeal inflammation, though no doubt meningeal inflammation would accentuate it. But the most powerful argument against the syphilo-meningeal origin of the lymphocytosis in tabes and general paralysis is the fact that it does not yield in the slightest degree to the most energetic anti-syphilitic treatment (Milian, Purves Stewart). In active syphilitic lesions of the nervous system, however, the lymphocytosis that may be present tends to disappear in the course of treatment, as I show on the screen from a case of syphilitic paraplegia under the care of Purves Stewart. After a month's antispecific treatment the lymphocytes had decreased from 52·6 to 16·1 per field and the symptoms had become greatly ameliorated.

Having thus passed in review the different theories which have been advanced in reference to the pathogeny of the tabetic degeneration we have seen that there is not one which is not open to several more or less serious objections. Instead of attempting to be more precise than the facts permit I am inclined to adopt the hypothesis of Thomas and Hauser that the essential lesion of tabes is a dystrophy similar to that induced by certain toxic agents, affecting the sensory proto-neuron as a whole and manifesting itself in degeneration both of the peripheral and central terminations, of which the intermedullary are the more vulnerable, and are usually the earliest to exhibit anatomical change. The process, however, is not confined to the spinal proto-neuron but may affect among others the optic, the sympathetic, and certain motor neurons. And here I would express, in concurrence with Fournier, Mott, and many other neuropathologists of the present day, my belief in the essential pathological identity of tabes and general paralysis. They are, in my opinion, merely different aspects of the same polymorphic disease. One cannot say that they are the same disease so far as their clinical manifestations and course are concerned, any more than one would say that tuberculous meningitis and pulmonary consumption are the same. But the morbid process underlying both is identical. Both are tabetic or wasting affections—of the sensory proto-neuron in the one case and of the cortical neurons in the other. The essential etiological factor is, as we shall see, the same and the date of development of the two affections after the primary infection corresponds. No blind or crude primary meningeal inflammation could selectively attack only such regions—the fronto-parietal by preference—as exhibit the atrophic cortex and adherent lepto-meninges characteristic of general paralysis.

The primary lesion in general paralysis, as in tabes, is a dystrophy of the neurons and their connexions, the sclerosis, thickening of the membranes, and walls of the blood-vessels being only a secondary result of the parenchymatous degeneration. Not infrequently tabes and general paralysis are combined or succeed each other in the same individual. Clinically some of the characteristic signs, notably the Argyll-Robertson pupil, are common to both, and in both there is the same cerebro-spinal lymphocytosis. It would, in my opinion, conduce to a truer conception of the pathology of these affections if we were to call them both by the generic name tabes, classifying them specifically as cerebral tabes (general paralysis), spinal tabes (tabes dorsalis, locomotor ataxy), and cerebro-spinal tabes (so-called tabo-paralysis) according as the disease affects the brain or spinal cord, or both conjointly.

ETIOLOGY OF TABES.

Up to 1876, when Fournier first pointed out the great frequency of antecedent syphilitic infection in tabes and indicated their probable causal relationship, tabes was most commonly attributed to sexual excess or the complex of injurious influences associated with exposure to cold. The supposed causal relationship between sexual excess and tabes was probably only a damnosa hereditas from the tabes dorsalis or sexual neurasthenia of the Hippocratic writers.

Sexual excess, like all other debilitating influences, may be placed among the exciting causes and many tabetics have probably exhausted themselves in this way, but the influence of sexual excess in the causation of tabes has been greatly over-estimated and if that were the only cause the disease would certainly be much more common than it is.

Similarly as regards cold, or damp cold which Romberg thought, and which is still regarded by von Leyden as one of the principal causes of tabes, this is probably founded more on the patient's belief that his tabetic pains are rheumatic in character and that he must have caught a chill, slept in a damp bed or the like, than on any more substantial basis. When we consider how often when our etiology is at fault, not only in respect of diseases of the nervous system but many others, it has been the custom to fall back upon exposure to cold as the probable cause, afterwards proved insufficient, we may without undue depreciation call it the last refuge of destitute etiology. Like sexual excess, exposure to cold and damp would, without doubt, have an injurious influence and probably excite or intensify tabetic symptoms already incipient, so that the patient might have some grounds for ascribing his malady to this cause. But that exposure to cold by itself is a sufficient cause of tabes is, in my opinion, a mere vague assertion, supported by no accurate data, and at variance with one's daily clinical experience. A history of exposure to cold is not found more frequently in tabes than in many other affections of the nervous system.

Fournier's views as to the causal relationship between syphilis and tabes were at first received with scepticism, not to say strong opposition, in many quarters; and the frequency of antecedent syphilitic infection in the personal history of the tabetic was not regarded as more than might be found in other forms of disease of the nervous system. But Fournier's views soon gained powerful support, among the first by Gowers in this country and by Erb in Germany; and Erb who at one time (1878) was a strenuous opponent, is now perhaps the most eminent advocate of the syphilitic origin of tabes. It is now so generally admitted by neuropathologists, with some few notable exceptions, such as von Leyden, that syphilis is the principal cause of tabes, that it seems unnecessary to quote the data on which this opinion is based. But as the elimination of cause and effect depends for the present mainly on the statistical method and as this is liable to many fallacies, depending on the personal equation of the observers and the material dealt with, it will be sufficient to state the results obtained by Erb, whose probably unequalled experience and laborious inquiries carried out with systematic uniformity invest his inductions with exceptional value. In the most recent of his numerous contributions on this question Erb states that among 1100 cases of tabes occurring in his own practice among men of the better class—and therefore better witnesses than those living among poor and squalid surroundings—89·45 per cent., or practically 90 per cent., had had chancre or syphilis, and only 10·54 per cent., or practically 10 per cent., had not been ostensibly infected. But of these, in only 3 per cent. was it impossible to find any ground for suspecting an antecedent syphilitic infection.

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[1] Lecture I. was published in THE LANCET of March 31st, 1906, p. 881. The bibliography will be given at the end of the lectures. (The lecture was illustrated by lantern slides.)

Now contrast the above statistics obtained from 1100 tabetics with those of 10,000 cases, also of men of the better class, of all varieties of disease, excluding tabes. Of these only 21·5 per cent. had had syphilis, as against 89·5 per cent. among the tabetics—i.e., that syphilis was found 4·5 times more frequently among tabetics than among other patients. Similar investigations among 158 tabetic men of the lower orders give a somewhat lower percentage of antecedent syphilis—viz., 77·2 per cent., but among 1300 non-tabetics only 6 54 per cent. had had syphilis as against 93·46 non-infected.

Among women, who are less liable to tabes than men and those of the better class less so than those of the lower orders, it is for various reasons much more difficult to determine the question of syphilitic infection. But Erb found that among 15 tabetic women of the better class at least 86·7 per cent., and probably 93·3 per cent., had been infected. Among 16 women of the lower orders, however, syphilis was probable in only 68·7 per cent. and unproved in 31·3 per cent. Taken altogether a statistical inquiry among 1321 cases—viz., 1100 men of the better class gives 89·5 infected; among 158 men of the lower class, 77·2 per cent.; and among 63 women, 80 per cent. as probably infected. Essentially the same is true of general paralysis.

So far for mere statistics: the general result being that in about 10 per cent. of the cases syphilis is unproved. These 10 per cent., however, constitute the pivot round which the essential question turns, whether tabes, like diphtheria or tuberculosis, is always due to a specific infection or whether it may result from some other cause. This is not a mere academic question but one of far-reaching practical importance. Can we in the present state of our knowledge give a definite, or approximately definite, answer to it? We may perhaps do so by taking other facts into consideration besides mere percentages. It has been established, and is generally recognised, that tabes frequently follows syphilitic infection of a mild type and therefore more likely to escape notice, particularly among those in whom personal cleanliness is not a cardinal virtue. And syphilis ignota or occulta is familiar to syphilologists and dermatologists. Some noteworthy investigations on this point have been made by Hirschl the results of which are worth quoting. He found that of 63 patients suffering from gummatous affections of indubitable syphilitic origin, in only 54 per cent. was there a certain history of syphilis, in 9·5 per cent. it was probable, while in 36·5 per cent. no evidence, other than the patient's actual state, was forthcoming of syphilis, hereditary or acquired. Practically the same results were obtained in reference to general paralysis. Similar statistics to those obtained by him in reference to syphilis and tabes have been quoted by Gowers as having been arrived at by G. Pernet of University College Hospital in reference to syphilitic affections of the skin. Syphilis could only be proved in 80 per cent. of the cases. One may therefore say with justice that the syphilitic origin of tabes and general paralysis is statistically just as well proved as that of gummatous affection of the skin.

Apart from juvenile tabes, which is always syphilitic, hereditary or acquired, and which affects both sexes in same proportion, tabes occurs most commonly among men from 30 to 40 years of age, and on the average from seven ten years after the primary affection. There are, however, exceptions to this rule, and I have seen it develop in a man 70 years of age, some 40 to 50 years after infection with syphilis. And there is a case on record (Berger) of a aged 74 years becoming tabetic after syphilitic infection the age of 70 years. Tabes at from 30 to 40 years of age is significant harvest of the wild oats sown some ten previously, and the classes who sow wild oats most freely are those who reap tabes most abundantly. Towns furnish more cases of tabes than those who live in the country, and great centres of population with their greater risks and temptations more than the smaller. Tabes general paralysis are rare among priests, and of these only such as have had syphilis or exposed themselves to it (Bouchard).

Tabes is less common among women of the better class than among those of the lower; doubtless, as Moebius has suggested, owing to the fact that men of the better class less frequently marry while still suffering from infective syphilis. But conjugal tabes is not uncommon and most neurologists have seen examples of this. Among others, Mott has given several interesting illustrations. Almost without exception there has been syphilitic infection (from 90 to 96 per cent., Hudovenig) on one side or the other; usually the husband has infected the wife. Nonne has related a very remarkable family history. A child, aged five years, was infected with syphilis through sleeping with a syphilitic bedfellow. At the a of 18 years he became tabetic. The child infected t mother and the mother the father. Both these becam tabetic. In another family, described by Souques (quoted Erb), the father was syphilitic and became a gener paralytic; the mother became tabetic, and two you daughters also showed signs of tabes—four in one famil Many similar cases might be quoted in detail, but it is u necessary to multiply them. Syphilis, acquired or heredita was the common factor in all. And the question has be mooted (Lavalle, Moebius, Erb) whether there may not be form of the syphilitic virus falling with special inciden on the spinal and cerebral centres and leading in due cour to tabes or general paralysis. Thus Brosius relates t remarkable history of seven glass-blowers who were infecte in the mouth from the same source in 1891. All were treate for syphilis and dismissed as cured after a few weeks anti-specific treatment. In 1902—i.e., after 12 years—fi of them came under his observation again. One was tabeti the second had signs of general paralysis; the third w already a marked general paralytic; the fourth had Argyl Robertson pupils and indications of so-called tabo paralysi while the fifth at the time of examination was still in go health. The other two had not been traced. The onl common factor in all these cases was the syphilitic infectio

It has been shown by Krafft-Ebing that general paralyti are insusceptible to inoculation by the syphilitic virus. Th is a negative fact of great significance and of much m importance than if the converse were true, for re-infect is always a possibility. Whether the same holds in resp to tabetics has not so far as I know been yet demonstrated but it is more than probable. Who has ever seen a tabet with a primary sore or even with secondary symptoms? considerable number, both during life and after deat exhibit tertiary manifestations or traces of antece syphilitic lesions. But these date from the which preceded the tabes. Yet it cannot be said tabetics do not run the risk of re-infection, for it notorious that in the pre-ataxic stage tabetics frequent exhibit excessive erotic propensities and expose thems freely to the possibility of acquiring syphilis.

Female children apart, tabetic *virgines intactæ* are *ares*. They are, however, not unknown. Of two of whom have read, the one (reported by Nonne) was a tabetic gi aged 20 years, who was infected in infancy by her mot suckling a syphilitic foster-child at the same time; t other (described by Erb), a virgin, aged 36 years, who time previously had had a chancre on her lip.

One might multiply arguments in favour of the relation between syphilis and tabes but they are unneces For those above related, singly and collectively, leave in opinion little room for doubt that tabes and general paraly are in all cases syphilitic and that tabes *per se* is as much proof of syphilis as a gumma of the skin. Those who may still unconvinced and seek a more positive sign will probably have to wait till in some pathological laboratory a monkey will be exhibited inoculated with a virus of syphilitic origin (a product, perhaps, of the spirochæta pallida) showing Argyll-Robertson pupils and loss of knee-jerks and the question of the syphilitic origin of tabes will be solved by the walk of a tabetic chimpanzee.

It has been urged by von Leyden and Goldschneider as an argument against the syphilitic origin of tabes that the disease is rare among prostitutes, among whom nevertheless syphilis is rife. But it must be remembered that tabes is less common among women than men and one must also take into account the fact that as tabes is a late manifestation of syphilis it is not to be expected among those who are still young enough to ply their wretched calling. This accords with the statistics of Kron who, though he found no case of tabes among 148 young prostitutes, yet among 36 over 25 years of age found five, a large percentage enough.

Similarly it has been contended that in certain countries and among certain races tabes is rare, though syphilis is common. Thus, it has been asserted that in Bosnia and Herzegovina, in Japan, in Abyssinia among the Arabs, and among negroes tabes does not occur. But more accurate investigations have proved this assertion to be unfounded For tabes is common enough in Japan (Nose); it is not unknown in Bosnia and Herzegovina; it is as common in Abyssinia as in Vienna (von Halban); and it certainly occurs among negroes (Collins Hecht). It may not be so common among primitive races as among those more advanced in civilisation and all that this connotes, but this is not the point. The fact that tabes only occurs where infection with syphilis is possible is the essential point in this relation. If tabes can be shown to exist or to have existed in any land or people among whom syphilis has never entered and who have never had communication with any outside syphilised world, the exclusively syphilitic origin of tabes will have to be abandoned, but not till then.

The relative infrequency of tabes among those who have suffered from syphilis—it has been variously calculated at from 1 to 5 per cent. of the whole—is no argument against the syphilitic origin of tabes. For there are many affections due to syphilis—such as aortitis, hepatitis, and orchitis—which are relatively rare. And, as Erb remarks, the fact that perhaps only 1 in 10,000 of those infected with tubercle suffers from Addison's disease does not disprove the tuberculous nature of the affection of the suprarenal capsules. But the smallness of the percentage, as well as other considerations, suggests that in addition to syphilis there may be some predisposing or other coöperating causes determining the incidence of the syphilitic virus on the nervous system, and the development of tabes either of the brain or spinal cord, or both.

Heredity, as such, plays no part in the etiology of tabes, though as we have seen juvenile tabes indicates a syphilitic inheritance.

Mention has already been made of sexual excess and cold, to which great, but as we have seen undue, prominence has been assigned by certain physiologists. The same may be said of neuropathic inheritance to which great importance was attached by Charcot. It is not more frequent in tabes than in other forms of nervous disease. Some facts, however, suggest that certain families are specially prone to develop tabes and several instances might be quoted of more than one member of the same family becoming either tabetic or general paralytics after acquiring syphilis.

Certain malformations, or developmental anomalies, such as heterotopia spinalis, have been recorded by several observers (Mott, Orr and Rows, Rebizzi) in the spinal cord of those affected by tabes or general paralysis. All these have, no doubt, their significance, but they are by no means constant nor are they even common.

The view that the substratum of tabes lies in some defect of development, or vice of inheritance, which predisposes to premature decay of the essential elements of a highly specialised tissue and reversion to those of a lower type, so that certain individuals are, as it were, predestined to tabes, reaches its culmination in Benedikt's burlesque "Tabicus nascitur; non fit"! No one who has had experience of tabes in all ranks, and has seen among its victims numbers of men of the most healthy stock and vigorous physique, can regard it otherwise than a gross libel to speak of tabetics in general as being "connective-tissue individuals" (Bindegewebs-Individuen) or "degenerates" in any true sense of the term.

Among other exciting causes of tabes injuries have been blamed and many cases of so-called traumatic tabes have been put on record. There is no doubt that in certain instances—perhaps 5 per cent.—tabetic symptoms have first made themselves manifest after injuries of the spine or other parts of the body, and the limb injured has not unfrequently been the primary or principal seat of the characteristic pains. But a critical examination of such cases of Hitzig and others has failed to substantiate the efficacy of trauma as a cause of tabes independently of antecedent syphilitic affection.

Of greater importance perhaps than any of the above-mentioned exciting or coöperating causes of the tabetic degeneration is the influence of over-exertion or of over-exertion in debilitated states of the system. The principle underlying these degenerations is that the normal equilibrium between waste and repair which characterises health is disturbed and that in consequence of the process of waste exceeding that of repair the neurons, especially those most engaged, tend to break down and show dystrophic change. Edinger and Helbing have found that in rats artificially rendered anæmic, which have been compelled to work in a treadmill, or by other device to engage in long-continued muscular exertion, the posterior roots and posterior columns of the spinal cord exhibit degenerations similar to those of tabes. These facts are suggestive and appear to harmonise well with the views of those who regard fatigue and over-exertion as the most important causes of tabes. As coöperative causes certainly but not apart from syphilis, for the same degree of fatigue and over-exertion which may excite tabes in one in whom the soil is already prepared by syphilis may be borne by thousands of others without material damage.

Edinger's "compensation theory" (Ersatz-Theorie) seems also to afford a plausible explanation of the incidence of the affection in the parts most subjected to continuous strain, the most common being the sensory apparatus concerned in coördinated locomotion and maintenance of equilibrium. Occasionally, however, as in cervical tabes, the arms for similar reasons are more especially affected and the pupils and optic nerves would in like manner probably suffer more readily than any of the other organs of special sense. So also muscular atrophies would be more prone to occur in the muscles which are most taxed, similar to the occupation muscular atrophies of blacksmiths, railway porters, and the like. Probably the same principle may serve to explain the incidence of the tabetic degeneration, in one case on the brain and in another on the spinal cord. Raymond has related an interesting narrative of two brothers, similarly constituted by inheritance, who both became infected by syphilis about the same age. The one who lived a fast life and indulged in sexual excess became a tabetic; the other who exhausted his brain in the struggle for existence became a general paralytic. Facts like these are of eloquent significance. The sensory neurons and posterior columns of the spinal cord appear to be specially vulnerable to certain toxic agents. Whether this can be explained on evolutional or developmental principles; or more mechanically by peculiarities in the lymph circulation in the posterior roots and posterior columns; or by an elective affinity of certain poisons for special structures, such as nicotine for the cells of the sympathetic ganglia, is a question for the future. But degenerations similar to those of tabes have been shown to occur from poisons introduced from without, or generated within, as well as in the course of cerebral tumours, in some more obscure manner.

In the great epidemic of ergotism which occurred in Hesse in 1880 Tuczek observed many cases of so-called ergotin-tabes in which, following the preliminary acute gastric and other constitutional disturbances, paræsthesiæ and ataxic symptoms set in, sometimes several months after the ingestion of the poison. Occasionally there was a tendency to relapse, even when no further use was made of the poisonous grain in the dietary. These ataxic and sensory symptoms were found to coincide with degenerative changes in the posterior roots and posterior columns similar to those of tabes, differing only in their acute course and in the absence of sclerotic shrinkage. Lissauer's zones, however, remained intact and there were no pupillary symptoms. Somewhat similar degenerations, but less strictly confined to the posterior columns, have been observed in pellagra, endemic in certain districts, especially in Northern Italy, and due to the consumption of poisonous maize. The degenerations in this case affect not only the posterior columns, particularly that of Goll, but also the antero-lateral and pyramidal tracts. The exact nature and localisation of these degenerations are, however, not as yet precisely determined. So also in lathyrism, caused by the seeds of the lathyrus sativus, degenerations occur in the spinal cord, and a large number of inorganic poisons, which specially cause peripheral neuritis, also occasionally lead to degeneration of the posterior roots and posterior columns, such as alcohol, lead, arsenic, and some others.

Many of the organisms which are the cause of certain epidemic and endemic diseases, such as those of diphtheria, beri-beri, and lepra, generate toxins which not only induce multiple neuritis but also in some instances degeneration in the posterior roots and in their intramedullary processes and collaterals. Whether these degenerations are primary or secondary to the peripheral neuritic processes or whether the two are simultaneous is a question on which it is impossible at present to pronounce definitively. Further, and perhaps of greater significance in reference to the pathogeny of tabes, it has been shown that in certain cachectic states of the system such as pernicious anæmia (Lichtheim, Minnich, and others) and diabetes (Fischer, Williamson, and others), probably by the autochthonous development of toxins, degenerations occur in the spinal cord, especially in the intramedullary processes of the posterior roots, and tabetic-like symptoms ensue in the form of paræsthesiæ, pains, and ataxic disorders. But however much these toxic affections resemble tabes they are in reality only pseudo-tabetic and none of them conforms in its clinical history, course, and termination to tabes properly so called. Though weeks or even months may elapse before the poisons introduced into the system or engendered in it by the specific organisms produce their deleterious effect on the nerves and nerve centres, and though relapses may occur, there is a direct continuity between the introduction of the poison and the development of the symptoms, which run their course and cease when the virus is exhausted. In none of them do years elapse between the original infection and the commencement of the symptoms and none has the progressive character of true tabes. In none of them do the children suffer like the juvenile tabetics "who have their teeth set on edge because their fathers have eaten the sour grapes" of syphilis. The similarity, however, between the degenerations caused by these poisons and those of tabes strongly supports the hypothesis, originally advanced by Strümpell, that the tabetic degeneration is due to the action of a toxin of syphilitic origin. The tabetic degeneration is, as we have seen, a parenchymatous dystrophy, and has none of the features usually considered characteristic of tertiary syphilitic lesions. There are no cellular infiltrations, no specific vascular or gummatous changes, and it does not yield to the usual antispecific remedies. Hence it has been customary to term the lesions of tabes parasyphilitic (Fournier) or metasyphilitic (Moebius) manifestations. It may be said, however, that this is a mere *petitio principii* and that we have no certain criterion of what constitutes a syphilitic lesion. The spirochæta pallida has not yet been shown to be present in tertiary syphilis. But in any case it would be incorrect to term a state of abiotrophy (Gowers) or defective nutrition a positive lesion. For this reason Lesser's term "quartary syphilis," however appropriate to certain late manifestations of syphilis in the liver and other organs, is not strictly applicable to a condition in which parenchymatous dystrophy precedes the development of the sclerotic process.

The most probable pathogeny of the tabetic degeneration, therefore, is that it is the result of a toxin generated or conditioned by the syphilitic virus. But this is at present a pure hypothesis and one which has to surmount great difficulties. Even if, like the diphtheritic neurotoxin, it may be the product of the action of the specific organism on the proteids of the body, or set free in the elaboration of protective antitoxins, that it should take so long to develop, or lie dormant for so many years before exhibiting any signs of activity, is unlike anything that we know of organismal toxins. There is no para- or meta-syphilitic cerebro-spinal lymphocytosis as such apart from the commencement of the tabetic process and this is a fact of great importance. Dr. Purves Stewart, who has made investigations for me on this point, found that in a series of 12 cases the average number of lymphocytes in the centrifuge deposit of the cerebro-spinal fluid in secondary syphilis was 2 7, while in tertiary syphilis it was 0·9, or not more than the normal. The tertiary cases with active cutaneous lesions in progress had more lymphocytes, than the others, but even these were less than the average of the secondary cases. The lowest count in tabes, however, was 45. Most were between 80 and 100, while the highest was 316 in the same relative field. And even if we were to consider it possible that there might be long years of apparently normal health in spite of the presence of some malignant toxin in the system, we have to reckon with the fact that the tabetic process once begun is essentially of a progressive nature and postulates a more or less continuous generation of the poison.

In this relation mention may be made of the researches of Ford Robertson, McRae, and Shennan. These observers have found a bacillus closely resembling the Klebs-Löffler bacillus of diphtheria in cultures from the walls of the respiratory, gastro-intestinal, and genito-urinary tracts of patients dying from general paralysis and from the genito-urinary tracts of general paralytics and tabetics during life. Rats fed on broth cultures of this diphtheroid bacillus became ill after some weeks, and when killed showed, in addition to signs of gastro-enteritis, acute degenerative changes in the cortex cerebri, resembling to some extent those of general paralysis, as well as degenerative changes in the cells of the spinal cord. These observations are of much interest, but a definite causal relationship between this bacillus and tabes or general paralysis is far from being established; for the same bacillus was found by them in the genito-urinary tract in ten out of 14 patients suffering from forms of insanity other than general paralysis.

[*Note.*—I had written this before Dr. W. Ford Robertson had delivered his Morison lectures on the Pathology of General Paralysis, now in course of publication, and I am indebted to him for allowing me to read the manuscript of those as yet unpublished and to examine some of his microscopical preparations. He holds that general paralysis is the result of a bacterial toxic infection from the respiratory and alimentary tracts owing to the impairment of the resisting power of the organism by syphilis, alcoholism, or the excessive use of nitrogenous foods. The bacillus has the cultural and morphological features, and reaction to Neisser's stain, of the Klebs-Löffler bacillus, of which it is an attenuated, or more probably a special form, to which he gives the name, bacillus paralyticans. The bacillus is polymorphic, and *among other* characters which distinguish it from the xerosis bacillus and Hoffmann's bacillus is its power of forming acid when cultivated in glucose broth. The leucocytes of the blood of the general paralytic, he maintains, have a greater dissolving power over these bacilli than those of *normal blood*, and *the serum is also more* lysogenic. These diphtheroid bacilli, more or less altered by lysogenic action, have been found by him and his colleagues in the catarrhal pneumonic foci of general paralytics, in the adventitial spaces of the cerebral vessels, and in the meshes of the pia-arachnoid. *They have also been found in the* blood, in the centrifuge of the cerebro-spinal fluid, and in the urine of the general paralytics, especially during congestive attacks. From these fluids cultures of the bacilli have been obtained when sufficient time has been allowed to destroy the *phagocytic or lysogenic action of the blood.* Rats infected, or fed, with cultures of these bacilli showed changes in the cerebral cortex suggestive of those of general paralysis and similar appearances were also found in a goat which had ingested them. He considers that in general paralysis there *is a life-and-death struggle* between the leucocytes and the diphtheroid bacilli in which the leucocytes succumb. There is a bacillary invasion. Most of those which reach the blood are digested but many escape from the circulation, either through the capillaries of the kidneys or through the walls of the cerebral blood-vessels into the adventitial lymph channels. The further disintegration of the bacilli in these lymph channels gives rise to a local toxic action in addition to the general toxæmia. The special cause of the cord lesion in tabes is probably the absorption of toxins from some peripheral septic focus, such as the bladder.

Interesting as these views are there are many difficulties in the way of their acceptance as a satisfactory pathogeny of tabes, cerebral or spinal. Eyre and Flashman as the result of examination during life of the throats of large numbers of patients suffering from different forms of insanity, as well as of the tissues of a considerable number of cases post mortem, could not determine *any greater* incidence of diphtheroid organisms in the throats of the insane than of the sane and found no evidence that the bacillus diphtheriæ is more common in the throats of general paralytics than of other insane patients. Of ten cases of general paralysis examined post mortem, diphtheroid organisms were found in the respiratory tract in four; and the same number in 26 cases of other forms of insanity. They were unable to trace any causal connexion between the bacillus diphtheriæ and general paralysis of the insane.

I have the authority of Dr. W. Bulloch, one of our eminent bacteriologists, for the following remarks: Diphtheroid organisms are ubiquitous both in health and disease. They may be found in the intestines, in the genito urinary passages, in the throat, in the nasal secretions, and elsewhere in perfectly normal people, as well as in catarrhal conditions of the respiratory tracts.

[The characters given by Ford Robertson are not sufficient to distinguish his bacillus paralyticans from other forms of diphtheroid organisms. The formation of acid grown in glucose broth is not special to the bacillus paralyticans, for this is possessed in different degrees by various other diphtheroids. If diphtheroid bacilli can be found in the blood films of living general paralytics then general paralysis must be regarded, not as a toxæmia, but as a form of septicæmia ranking with relapsing fever as regards the dissemination of the organisms. If diphtheroid bacilli exist in the blood or cerebro-spinal fluid of general paralysis, they should be capable of cultivation at once without waiting for the cessation of any supposed bactericidal action, for no lysogenic action of the serum for bacilli of this group has been proved to exist. Specimens of the cerebro-spinal fluid, blood, and urine of several cases of tabes and general paralysis have been cultivated for me by Dr. W. d'E. Emery of King's College Hospital and by Dr. Bulloch, and have proved absolutely sterile. Ford Robertson emphasises the fact that he finds bacilli particularly after so-called congestive attacks. It is not improbable, therefore, that the bacilli which he has found so largely diffused throughout the tissues in general paralysis are only the results of a terminal invasion.

In order to establish any causal relation between the bacillus paralyticans and tabes it would be necessary to show that a toxin prepared from these bacilli can produce the symptoms and post-mortem appearances characteristic of tabes, cerebral or spinal. Such evidence Dr. Robertson has not produced. The experiments on rats related by him are not convincing, for it has been found by other bacteriologists that rats are almost immune to the most virulent form of the Klebs-Löffler bacillus. In presence of these and other considerations we may therefore say that the diphtheroid-bacillary origin of the tabetic toxin is at least not proven.]

In the absence of any living organism capable of generating a tabetic toxin it may be that the syphilitic virus under certain conditions so affects some viscus or gland that in time it develops and continues to elaborate some toxic internal secretion which exerts its noxious influence on the nervous system. In view of the brilliant therapeutic triumphs of the present day it is not, I think, too optimistic to hope that with the progress of bio-chemistry we may yet discover the source of the tabetic toxin, its nature, and the means of neutralising it and staying its ravages. We cannot expect to repair damage already done, for intramedullary degeneration is irreparable, but we may at least succeed in arresting the disease. This not infrequently happens spontaneously; and the therapeutic measures last employed are likely to get the credit of the happy result. But beyond palliation, or the temporary relief of urgent symptoms, no remedy, chemical or physical, has as yet been discovered which materially influences the morbid process. Antispecific treatment may be of service against possible coincident tertiary lesions, or may even cure pseudo-tabetic syphilitic symptoms; but certainly ordinary antispecific treatment exerts no beneficial influence on true tabetic degeneration and may, if carried to extremes, prove positively harmful. If, however, we believe, as I think we must, that the syphilitic virus is the *sine quâ non* in the etiology of tabes it ought to be our endeavour to combat this with all the resources at our command.

The comparative mildness of the primary constitutional symptoms in those who ultimately become tabetic would almost seem to indicate than when the syphilitic virus expends itself in severe primary and secondary manifestations there is less tendency to the subsequent development of the subtle poison which proves so disastrous to the nervous system. This mildness of the primary symptoms without doubt leads in many cases to insufficient treatment. Even the most efficient antispecific treatment, however, may fail to prevent the subsequent development of tabes in certain cases. But the facts recently brought by Fournier before the Académie de Médecine in reference to the relation between general paralysis and syphilis and its treatment are worthy of careful consideration and probation.

Fournier states that of 79 cases of general paralysis coming under his own observation in which he was able to obtain precise data as to the character and duration of the treatment to which they had been subjected, only 5 per cent. had been treated with thoroughness, while in at least 80 per cent. the antispecific treatment had been carried out in a more or less perfunctory manner. It is not enough, he says, to treat constitutional syphilis for weeks or months only. Fournier contends that mercurial treatment should be administered for at least two years continuously and intermittently for several years longer. "Treat syphilis well and you will have few cases of general paralysis," he says. The same would hold true of spinal tabes. These views deserve the special consideration of those who have most opportunities of treating syphilis in its earlier stages. If they are substantiated, tabes, both cerebral and spinal, will become one of the rarer instead of one of the most common and, it is to be feared, increasing forms of organic nervous disease

ON THE VALUE OF A SERUM (DOYEN'S) IN CASES OF MALIGNANT DISEASE.[1]

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DURING the past year we have undertaken an inquiry at the Cancer Hospital into the treatment of cancer by means of Dr. Doyen's serum. The results of this treatment, together with an account of the pathological investigation of the occurrence of the so-called "micrococcus neoformans" in simple and malignant growths, form the basis of this paper. We think it advisable to preface our remarks with a brief *résumé* of Dr. Doyen's work on the subject. In 1886 Dr. Doyen sent a preliminary note to the Academy of Sciences at Paris recording his observations in malignant and other growths of small, spherical, mobile bodies which he regarded as micro-organisms. In 1901 he made a communication to the Academy of Medicine in Paris and in the following year to the surgical congress at Berlin corroborating these observations, and stating further that he had isolated a micro-organism from simple and malignant growths which when inoculated into animals gave rise to neoplastic formations, and this organism he named the "micrococcus neoformans." He also regarded all these growths as the result of an infection of the body with this organism, comparable to the infective processes of tuberculosis and actinomycosis. Early in 1904 he made a second communication to the Academy of Sciences in Paris announcing the preparation of anticancerous vaccines by attenuating and exalting the virulence of this organism. He had also by means of its toxins prepared an antitoxic serum from the horse. With these preventive and therapeutic remedies combined with surgical operation he had treated 126 cases of malignant and simple growths and of these 21 he regarded as cured. Since this date he has published in his book on the "*Étiologie et Traitement du Cancer*" an account of 116 additional cases, 42 of which he records as cured. During the year we were afforded every opportunity of watching the progress of cases so treated by Dr. Doyen at his clinique in Paris and were very kindly supplied by him with a quantity of vaccine and serum with which we have treated some nine cases of malignant disease. Most of these cases were seen by Dr. Doyen himself who regarded them as suitable for the treatment. The treatment consisted of the injection of 10 cubic centimetres of the serum or vaccine deep into the muscles of the buttock, with strict aseptic precautions, at stated intervals. We wish to state that as we were desirous of ascertaining the therapeutic value of these remedies all the cases were treated by them alone without surgical interference. We mention this because in many of Dr. Doyen's cases the two methods of treatment were combined.* The first part of the paper deals with a clinical account of the cases treated and the latter part with the results of the pathological investigation.

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[1] A paper read before the Royal Medical and Chirurgical Society on March 27th, 1906

PART I.—CLINICAL INVESTIGATION.

CASE 1.—A man, aged 54 years, was admitted to hospital on March 17th, 1905, for recurrent epithelioma in the neck. In July, 1903, he had a growth (said to have been "cancer") removed from the centre of the back of the neck. In July, 1934, two recurrent nodules of growth appeared on either side of the back of the neck, close to the middle line and quite near to the spot wherefrom the growth was removed in July, 1903. The patient was advised to come up to the Cancer Hospital. This he did on Sept. 2nd, 1904. His general health was then good and he looked healthy. There was a healed scar in the middle line at the back of the neck. Above and on either side of this was a rounded raised ulcer with hard edges, the base being flat, with unhealthy granulations. There was a slight discharge from both ulcers. The ulcers were apparently fixed to underlying glands which were moveable on the deeper tissues. No other enlarged glands could be felt anywhere. The growth was removed on Sept. 20th and microscopically shown to be a definite epithelioma. Two subsequent local recurrences of the growth were removed in December of the same year and in January, 1905. On March 17th the patient was again admitted for a recurrent growth at the back of the neck which was painful and increasing in size. On examination, close to the right side of the occiput was a recurrent nodule of growth which was firm, hard, and red, adherent to the skin, which was not ulcerated, and deeper tissues. The growth was circular in shape and had a diameter of one inch. No glands could be felt anywhere. The patient was then given injections with Dr. Doyen's serum. During his stay in the hospital he received 15 injections from March 27th to May 8th. His general health remained good and he increased four pounds in weight. After the injections he experienced a feeling of increased tension in the growths which steadily increased to twice the size, when it was considered advisable to stop the injections.

CASE 2.—A man, aged 70 years, was admitted to hospital on March 23rd, 1905, for recurrent epithelioma in the lower jaw and glands (secondary to the lower lip). In July, 1903, the patient was operated on at St. Thomas's Hospital for "epithelioma of the lower lip," when the growth was removed. Since December, 1904, he had had a swelling under the left side of the lower jaw which had steadily increased in size. He complained of pain in the growth and earache. He had not lost flesh, his appetite was good, and he slept fairly well. There was slight dysphagia. The voice was normal. The patient was a big stout man whose general health was good. There was a slight scar on the left side of the lower lip, the result of previous operation. Occupying the whole of the left submaxillary and submental regions as far as the angle of the jaw and extending as low as the thyroid cartilage was a large, very hard mass of growth of the size of an orange, firmly fixed to the lower jaw and skin. There was no fluctuation or tenderness and the skin over the tumour was reddened. The right neck and jaw were apparently normal. Whilst in hospital he received 12 injections between March 27th and April 22nd, during which time his general health became much impaired and he gradually lost weight. The growth increased in size, softened, and broke down, leaving a cavity which discharged thin sanious fluid; and as this was followed by fever and general malaise the injections were discontinued. The disease ran its usual course and the patient died on June 2nd.

CASE 3.—A woman, aged 48 years, was admitted to hospital on March 31st, 1905, for carcinoma of the left breast. Two years previously she had a miscarriage. After this (in August, 1903) she noticed a small hard lump in the left breast which was not painful. In December, 1903, she went to the Samaritan Hospital where she was told that she had "cancer" of the breast. Nothing was apparently done then. In February, 1904, she went to the Middlesex Hospital. Operation was refused there owing to the fact that she suffered from bronchitis and emphysema and it was thought that she was not in a fit condition to withstand the anæsthetic. Since June, 1904, she had had x ray treatment at the Cancer Hospital. On admission the left breast contained a large hard mass of growth of the size of a Tangerine orange, which was not painful and which was adherent to the skin and to the pectoral muscle, though there was free lateral movement. The nipple was retracted and some enlarged glands could be felt in the left axilla but none in the supra clavicular fossa. The right breast and axilla were normal. There was no swelling of the arm. Examination of the chest showed that the patient was the subject of chronic bronchitis and emphysema. She received eight injections from March 31st to June 8th, during which time she lost two pounds in weight and suffered very much pain; this was so severe as to keep her from obtaining sleep. The pain was situated in the tumour, radiating to the shoulder and down the arm to the elbow and finger-joints. A localised erythematous rash appeared on the buttock after the third injection. At the patient's request the injections were discontinued and this was followed by a cessation of the pain. The tumour had increased in size. At a later date the breast was amputated by Mr. Charles Ryall and shown to be definite scirrhous carcinoma.

CASE 4.—A woman, aged 63 years, was admitted to hospital in April, 1904, for recurrent carcinoma of the left breast. In 1895 the late Sir William Banks operated on the patient for carcinoma of the left breast. Four years later (1899) this recurred and was allowed to remain for five years without treatment, when she came to the hospital in April, 1904. On admission there was a scar below the nipple of the left breast. The breast, nipple, and scar were all bound down in a large hard mass of growth, absolutely fixed to the skin and deeper parts. Just above and external to the nipple was a small ulcer with hard edges but with no granulations on the base. Some thickening was felt towards the axilla but no definite axillary glands. The veins over the left shoulder were dilated. No enlarged glands could be felt above the clavicle. X ray treatment was given while the patient was in hospital with no apparent result and she was discharged on June 10th, 1904. She was readmitted on Jan. 20th, 1905. Her general health was then poor. Examination at this time showed that in the scar of the amputation wound of the left breast was a small stony hard mass fixed to the chest wall. The surrounding skin was marked by radiating fissures. A mass of glands could now be felt in the axilla. The patient received five injections from March 29th to April 10th. Her general condition remained unimpaired until the last injection which was followed by severe constitutional disturbance characterised by depression, high fever, the temperature rising to 103·2° F., loss of appetite, dry brown tongue, and joint pains, an erythematous rash appearing over the lower part of the chest, abdomen, and both knees; heart failure and pulmonary congestion supervened, but under stimulants the cardiac condition improved and at the end of a week the temperature returned to normal, leaving the patient very feeble. She had lost eight pounds in weight. No change was observed in the local condition of the breast and the injections were discontinued.

CASE 5.—A man, aged 65 years, was admitted to hospital on April 12th, 1905, for epithelioma of the left tonsil with secondary glands in the left side of the neck. About three years ago (in 1902) a lump was first noticed on the left side of the neck. As the tumour grew larger and the patient had severe pains at the top of the head of a gripping nature he went to the Throat Hospital in the Gray's Inn-road in December, 1904, and was there told that nothing could be done. On the following day he went to St. Mary's Hospital and was there told that he had an inoperable cancer. He went to Dr. Doyen at Paris early in January, 1905, and was in his hospital for just over a month. During this time he had nine injections of serum, and he said that he felt much better, the pains in the head had disappeared, and he thought that the lump was smaller. He returned to London in the early part of February and came to the Cancer Hospital on April 12th, 1905, as the lump was then getting larger and the pains in the head had returned. On admission his general health was good. On the left side of the neck was a large egg-shaped tumour situated below the lobule of the ear. Its long diameter measured nearly four inches over the surface and commenced at a point one inch below the tip of the left mastoid process, extending downwards and forwards, following the course of the sterno-mastoid muscle. Anteriorly it reached to the angle of the jaw and extended backwards for a length of nearly three inches. The tumour itself was firm and hard, firmly incorporated with the left sterno-mastoid muscle, and fixed to the deeper structures of the neck. Its surface appeared lobulated, consisting of a larger upper mass and a smaller lower one; the skin over it was freely moveable and perfectly normal. This growth in the neck was continuous with an epitheliomatous mass on the left tonsil, the latter appearing as a growth with raised, hard, ragged edges, having an ulcerated surface and hard base. This extended downwards, laterally and slightly anteriorly to a point on a level with the middle of the epiglottis. The patient's voice was husky. He received 17 injections from April 14th to June 7th. During this time his general health remained fairly good, though he lost colour. The pain at the back of the neck, which radiated over the top of the head, gradually remitted and he expressed himself free from pain after the fourth injection. At the same time the lower end of the tumour in the neck appeared softer. After the eighth injection the pain returned with much severity and he suffered from depression. Immediately after the last injection the patient, in his own words, experienced "a feeling of suffocation and great difficulty in getting his breath; there was a feeling of swimming in the head as if the blood was rushing to the brain; he then became confused in his mind and felt as though he were dying." His face became suffused, his features swollen, and his eyes injected. The expression was one of anxiety. This was accompanied by dyspnœa, followed by cyanosis of the face (breathing being shallow, laboured, and quick). The pulse became very rapid and feeble and there was marked vaso-motor dilatation of the vessels of the skin all over the body and extremities, with general profuse sweating. Examination of the chest showed that the breath sounds were laboured and accompanied by a peculiar inspiratory stridor. This condition was followed by shivering, with coldness of the extremities. Cardiac stimulants were given and the collapse was treated in the usual way. After an hour the pulse, which had become almost imperceptible, gradually improved and the dyspnœa and cyanosis passed off, leaving the patient very weak. The skin remained injected and the features swollen for some hours. The patient slept well in the night and in the morning his temperature was subnormal. His pulse, which had reached 100 after the injection, had also become subnormal. There was absence of dyspnœa and the general injection of the skin had passed away, leaving the patient weaker. The injections were discontinued and though externally the growth did not appear to have increased very much in size an examination of the throat showed that the growth on the tonsil had extended downwards and forwards.

CASE 6.—A man, aged 61 years, was admitted to hospital on May 1st, 1905, for epithelioma of the left lower lip and cheek. Five years ago (1900) the skin of the lower lip on the left side became broken and sore (which the patient attributed to the irritation caused by smoking a clay pipe) A wart formed at this spot which was removed in July, 1902, at the London Hospital. A further operation was performed in the following October for recurrence. In September, 1904, he was again at the London Hospital when his teeth were removed but nothing was done to the growth. Since November, 1904, he had attended the Cancer Hospital as an out-patient. His condition on admission as an in-patient was as follows. On the left lower lip, occupying practically its whole length and spreading to the left angle of the mouth and the skin down to the lower border of the jaw and invading the margin of the gums to a little beyond the mid-line, was a ragged, raised, ulcerated mass of growth with hard edges. Its size was about two inches by two inches No enlarged glands could be felt. The patient's general health was good; he received 16 injections from May 2nd to June 19th, his general health improved, and he gained five pounds in weight, but as the growth steadily increased in size the injections were discontinued.

CASE 7.—A man, aged 58 years, was admitted to hospital on May 26th, 1905, for an epitheliomatous mass in the neck. In December, 1904, he first noticed a small lump behind and below the lobule of the right ear. It grew rapidly and was operated on by Mr. L. B. Rawling at St. Bartholomew's Hospital at the end of March, 1905. He remained there for three weeks and from the patient's account it is doubtful if the tumour was removed or not. The growth had continued to grow very rapidly. On admission there was a large oval-shaped tumour in the right side of the neck, extending from the lobule of the ear above to within two and a half inches of the clavicle. In front it reached the anterior margin of the sterno mastoid and posteriorly the anterior border of the trapezius. The surface was covered by thick, bluish, very congested skin and the upper part was traversed by a curved linear scar. There were three protuberances, over which the skin was very thin, and fluctuation could be felt. The whole mass was fixed to the deep structures. No growth was discovered in the mouth, tongue, or pharynx. No other tumours were found. There was no dysphagia and speech was not affected. The patient had pricking, throbbing pain in the growth, especially at night. There was no pain in the ear or in the temporal region. There was no deafness in the right ear. He received eight injections from May 30th to June 19th. Beyond a slight febrile reaction and an appearance of a local erythema on the buttock there was no change noted in the patient's condition until immediately after the last injection was given, when he experienced sensations similar to those recorded in Case 5. The onset of the attack commenced with a feeling of suffocation, accompanied by a rush of blood to the head and followed by temporary loss of consciousness. He also felt pain in the back. There were temporary cessation of breathing, suffusion of the face which became very red, injection of the conjunctivæ, and swelling of the features. The lips and hands became cyanosed and the body and extremities cold. When respiration again commenced it was laboured, the breath sounds over the sides of the chest being peculiar; expiration was prolonged and followed by stridulous inspiration, with an occasional loud rhonchus. The pulse at this period was faint, fairly regular, and of medium tension—88 per minute. After a few minutes the pulse rose to 120, and this was followed by a rigor, the lips remaining cyanosed and the features swollen. There was profuse sweating of the face but not of the body. The feet became somewhat œdematous. The collapse was treated in the usual way. During this period the temperature in the axilla rose to 104° F.; subsequently it fell to below 97°. The patient slept in the night and next day expressed himself as feeling much better, but the eyes, the cheeks, and the lips were œdematous and pale, and there was slight œdema of the feet. The respiration and pulse were normal. The urine passed in the night was examined, but nothing abnormal was found. After June 19th, 1905, no further injections were given. The growth subsequently ulcerated through in several places, leaving sinuses with large fungating orifices. The patient died on August 27th, 1905.

CASE 8 —A woman, aged 55 years, was admitted to hospital on May 22nd, 1905, for carcinoma of the left breast. Two years ago she first noticed a moveable lump near the left axilla. This gradually became bigger and for the last year the breast had progressively increased in size. The whole breast seemed to increase uniformly and she had never noticed any tumour in the breast substance. The skin over the breast had become blue for the last three months. On admission the whole of the left breast was uniformly enlarged by a hard firm tumour, the whole organ being unduly prominent and firmly fixed to the deeper structures. The skin over it was of a bluish colour and fixed in all parts over the breast; it was infiltrated everywhere over the tumour with growth and was very much thickened. The nipple was slightly retracted. Enlarged glands were felt in the anterior border of the left side and in the left axilla. She received four injections from June 5th to 13th. After the second injection the pain in the breast became very severe and increased in severity after the third. After this injection a local erythema appeared on the buttock, the skin over which became very brawny. After the fourth injection the pain in the breast became intense and extended to the shoulder and down the arm. The latter was much swollen and covered on its extensor surface with an acute erythema. After this date no further injections were given in the hospital.

CASE 9 —A woman aged 52 years, was admitted to hospital on May 27th, 1905, for carcinoma of the cervix uteri. The history on admission was as follows. The patient was a married woman and had had eight children, the last 15 years ago. Menstruation ceased 10 years ago. She first noticed pain—sharp and smarting in character—in January, 1905. This was constantly present and had become more severe lately. There was no aching in the back. A vaginal discharge was noticed two months ago, becoming blood-stained one month ago. The discharge was not foul. There had been no increased frequency of micturition and the bowels were normal. She had been losing weight recently. Abdominal examination was negative. No iliac glands were palpable. Per vaginam the left side of the cervix uteri was found to be occupied by a hard, friable mass which readily bled on touching and involved about two-thirds of the circumference of the external os uteri. The whole uterus was slightly fixed on the left side. This patient had six injections but beyond the appearance of local erythema at the site of inoculation after the third injection there was little to record in this case, for she refused further treatment, complaining of pain and insomnia which she attributed to the injections.

Comment on the cases.—The cases treated will be considered under the following headings: (1) those in which the injections had no influence on the course of the disease; (2) those in which the injections were followed by severe pain; and (3) those in which the injections were followed by severe constitutional disturbance.

1. *Those in which the injections had no influence on the course of the disease.*—These were four in number. One of the cases—Case 2—has since died. A second—Case 1—has undergone three subsequent operations for removal of recurrences of the growth in the neck. A third—Case 6—is now attending the hospital as an out-patient. A fourth—Case 9—refused to continue the treatment.

2. *Those in which the injections were followed by severe pain.*—These were cases in which the patients were suffering from carcinoma of the breast—viz., Case 3 and Case 8. In the former case the pain which was extremely severe was located around the growth, radiating from the breast to the back, shoulders, and down the arms. Sleep had often to be procured by morphine. The pain finally became so severe that the patient refused to continue the injections. In the latter case the pain was very severe in the breast and down the arm.

3. *Those in which the injections were followed by severe constitutional disturbances.*—These cases were characterised by cardiac failure. In one—Case 4—this developed gradually and was accompanied by high fever, depression, pain, and other symptoms of constitutional disturbance. In the others—Case 5 and Case 7—the onset was sudden, occurring immediately after the injection, and was accompanied by widespread vaso-motor disturbance and collapse. In Case 4 the symptoms were those of a profound toxæmia—viz., continuous high temperature, headache, dry furred tongue with loss of appetite, general aching pains throughout the body and especially in the joints, a morbilliform rash on the trunk and local œdema over the joints, anæmia, feeble circulation, and great prostration. When the injections were withheld she made a slow and imperfect recovery so far as her general health was concerned. This severe reaction was not accompanied by any amelioration of the condition of the breast or improvement in the general health. Two or three weeks after the last injection she developed pain down the spine and subsequently paraplegia. In this connexion it is interesting to record that Mr. Ryall had under his care at that time two cases of carcinoma of the breast complicated by paraplegia, and these have not been treated with serum. We mention this because it might be wrongfully inferred that this paralytic condition was due directly to the injection. In the other two cases—Case 5 and Case 7—the failure of the heart's action came on suddenly and was accompanied by severe dyspnœa which first suggested pulmonary embolism but examination of the chest did not confirm this. The immediate onset and widespread distribution of the symptoms may have been due to some obscure reflex action or might be explained by assuming that possibly the injection had been made into a vessel—i.e., directly into the circulation. If the latter were the case, the symptoms might be explained by the serum in Case 5 and the vaccine in Case 7 acting either directly on the central nervous system or by producing active congestion of the tumour, causing direct pressure on the great vessels and nerves of the neck, for both these patients were suffering from large tumours in the neck surrounding the large vessels and nerves. In Case 7, who has since died, at the *post-mortem* examination it was found that these structures were closely incorporated in the growth at the level of the bifurcation of the common carotid. The symptoms in the two cases were not exactly the same; they resembled one another in the sudden onset of the cardiac failure, but differed in the extent and distribution of the vaso-motor disturbance, being general in Case 5 but localised to the head and neck in Case 7. This may be explained by the fact that a serum was used in the former case and a vaccine in the latter, or by the difference in the anatomical relations of the two growths. A number of rabbits were injected intravenously at the Brown Institution with both the serum and vaccine, but although large doses were given no ill-effects were produced; but the possibility of a difference in susceptibility to toxins between man and animals has to be borne in mind. Owing to the severe constitutional disturbances which followed the last injections in the three cases above mentioned, coupled with the fact that in none of the cases treated by injections was there any improvement, it was decided to suspend the treatment.

PART II.—PATHOLOGICAL INVESTIGATION.

The lines upon which this investigation has been conducted are those which Dr. Doyen has set forth in his book on the "Étiologie et Traitement du Cancer." We have used his methods of technique and supplemented them by others of our own. It may here be stated that the principles of the methods adopted by Dr. Doyen are those in general use in pathological research and differ from them only in a few minor details of technique. The cases selected for examination were all characteristic examples of simple and malignant growths, diagnosed clinically as such by the surgeons of the hospital, the diagnosis being confirmed by subsequent microscopical examination. A large number of the cases selected for investigation were mammary growths, both primary and recurrent, together with their secondary deposits in the symphatic nodes. We chose these tumours for preference, regarding them as being less liable to infection with laprophytic organisms than those connected with mucous membranes, where the moist surface favours the excoriation of epithelium and hence the invasion of bacteria. We have examined the acute and rapidly growing tumours as well as the more chronic and slower growing varieties and in every case the examination of the tumour was carried out immediately after its removal from the body. In all we have investigated 44 cases.

The microscopical examination of a very large number of simple and malignant tumours in films and sections prepared from the growth has shown us that the presence of micro-organisms in these pathological structures is by no means constant. In a large number of growths we have failed to demonstrate the presence of any organisms. In cases in which we have succeeded in detecting them the micro-organisms have been of various kinds and were members of the coccal and bacillary groups of bacteria. No one particular organism has been found to be constantly present. In those cases in which we have failed to demonstrate the presence of any micro-organism in films or sections cultures taken from the same growths have generally proved to be sterile. Our attention has been specially directed to the study of those tumours in which the members of the coccal group were present. We have endeavoured to ascertain (1) the nature of the organism when present; (2) the extent to which it was present; and (3) the relationship of the organism to the special cellular elements of the growth.

1. Micrococci when present in the tumours appeared in the form of solitary cocci and diplococci, and as these are the morphological appearances which micrococci assume in tissues when not in the state of active growth it was consequently impossible to identify them by this method of examination with any one particular species of micrococcus.

2. We also found that the organisms were present in very small numbers and we did not find them in greater numbers in the more rapidly growing tumours than in the slower-growing varieties.

3. Owing to the small number of organisms present in such tumours and the consequent difficulty of detecting them microscopically we have reinforced their numbers by the method of incubating the tissues at the body temperature. We did not find that the micrococci bore any special relation to the cells of the growth. Sometimes they were intracellular but more often extracellular.

Cultivations were made from each of the 44 tumours from different cases investigated and the manner in which this was done was the same as that usually adopted in taking cultures from any solid organ. The surface of the tumour, which had been removed at the operation, was seared with a cautery and with sterile knife and forceps, portions were removed from the growing edge and also from the centre of the growth and immediately immersed in liquid media with the strictest aseptic precautions. The cultures thus made were incubated at the body temperature for a period of from one to seven days. These were examined daily and films made from them, stained, and submitted to microscopical examination. The liquid media we have used include one specially advocated by Dr. Doyen for the isolation of his organism—namely, "*bouillon de mamelle de vache.*" This is a watery extract of the cow's udder in lactation, to which peptone and salt are added, and the whole rendered sterile by heat in the autoclave at 130° C. We also used ordinary peptone-bouillon and similar media, to which glycerine (4 per cent.) and glucose (2 per cent.) have been added in the usual way. Sub-cultures from the liquid media were made on solid media, such as agar-agar, gelatin, and potato, in order to study the characters of the growth of the organism on various media; and also for subsequent use for experimental purposes of inoculation. (*Vide* Table II.)

TABLE I.—SUMMARY OF THE CASES.

No.	Age in years.	Disease.	Condition.	Number of injections.	Constitutional reaction.	Local change in growth.	General health.	Remarks.
1	54 (male).	Recurrent epithelioma of the neck.	Operable.	15	*Nil.*	Increase.	Unimpaired.	General health remained very good. Gained four pounds in weight whilst under treatment. Increased tension in growth followed the injections.
2	70 (male).	Epithelioma of the lower jaw secondary to the lower lip.	Inoperable.	12	*Nil.*	"	Impaired.	No relief of pain. The disease ran its usual course; death.
3	48 (female).	Scirrhus of the left breast.	Operable.	8	Marked increase of pain.	"	"	Lost two pounds in weight. Local erythematous rash over the site of the inoculation. Marked increase of pain in the breast. General aching pains in the joints.
4	63 (female).	Atrophic scirrhus of the left breast.	"	5	Cardiac failure.	*Nil.*	"	Severe constitutional disturbance accompanied by a morbilliform rash on the front of the body, high fever, general aching pains in the joints and all over the body, together with cardiac failure followed the last injection.
5	65 (male).	Epithelioma of the left tonsil.	Inoperable.	17	Cardiac failure and collapse.	Increase.	"	Temporary relief of pains in the head. Severe constitutional disturbance followed immediately on the last injection, characterised by cardiac failure and vaso-motor disturbance.
6	61 (male).	Recurrent epithelioma of the lower lip.	"	16	*Nil.*	"	Unimpaired.	General health remained very good. Gained five pounds in weight during stay in hospital.
7	58 (male).	Epithelioma of the neck.	"	8	Cardiac failure and collapse.	"	Impaired.	Temporary relief of pains in the growth and freer lateral movement of the head. Severe constitutional disturbance followed immediately on the last injection, characterised by cardiac failure and vaso-motor disturbance.
8	55 (female).	Carcinoma of the left breast.	"	4	Marked increase of pain.	"	Unimpaired.	Local pain and tenderness in the buttock with injection and brawny swelling of the skin over the site of inoculation. Increased pain in the breast and erythematous rash on the arms.
9	52 (female).	Epithelioma of the cervix uteri.	"	6	*Nil*	*Nil.*	"	The patient refused to continue the treatment, complaining of pain and insomnia which she attributed to the injections.

In this manner we have examined 44 cases—viz., epitheliomata, 7; carcinoma of the breast, 25; sarcomata, 3; lymphadenoma, 2; fibro-adenoma, 2; myxoma, 1; lipoma, 1; and inflammatory tumours, 3. The organism named by Dr. Doyen the "micrococcus neoformans" was present in 11 of the 44 cases—i.e., in 25 per cent. of all the cases examined; the "micrococcus neoformans" was present in one of the seven cases of epithelioma, in seven of the 25 cases of carcinoma of the breast, in two of the three cases of sarcoma, in the case of myxoma, but in none of the eight cases of other tumours. Of these 11 cases in which the "micrococcus neoformans" was present it appeared in pure culture in eight cases and in the remaining three it was present with other organisms. In cultures which are sterile Dr. Doyen states that the "micrococcus neoformans" can be demonstrated in the sediment at the bottom of the liquid cultures. Of the 16 of our cases which gave sterile cultures the sediment at the bottom of the tubes was carefully examined, but in no single instance were we able to identify an organism with the "micrococcus neoformans." Of other organisms which were found to be present in the tumours we examined we draw attention to the fact that a streptococcus was found in 13 out of the 44 cases, as compared with 11 in which the "micrococcus neoformans" was present.

A study of the "micrococcus neoformans" shows that it is a polymorphic coccus measuring from less than 0·5 to rather more than 1μ in diameter. It possesses an outer envelope which does not stain easily but has no definite capsule. It is usually associated in pairs and when growing in liquid media appears in short chains. Occasionally one of the elements dividing in a direction parallel to the long axis produces a bifurcation of the chain. The organism stains well with the ordinary aniline dyes and is not decolourised by Gram's method. It grows readily on ordinary media. On agar-agar it forms a raised, white, moist, shiny and viscid growth which can be easily detached from the medium. On gelatin the growth is similar and is accompanied by slow liquefaction of the medium; and as the organism is preferably an aerobe stab cultures in gelatin are characterised by cupping of the superficial portion of the stab. In bouillon the growth appears as a general cloudiness of the medium which gradually clarifies by sedimentation of the growth to the sides and bottom of the tube.

With a view to ascertaining the pathogenic action of the "micrococcus neoformans" on animals a series of experiments have been conducted at the Brown Institution. The animals used were rats and mice. The method of inoculation was intraperitoneal, as used by Dr. Doyen in his researches. In all 200 animals were inoculated—viz., 110 mice and 90 rats. The organisms used in these cases were obtained from four different tumours—viz., carcinoma of the breast, carcinoma of the neck, carcinoma of the ovary, and melanotic sarcoma. The organism in the two latter cases had been isolated by Dr. Doyen who very kindly supplied us with subcultures. Many of these animals died from natural causes, others as the result of the inoculation, and of those which survived half the number were killed at the end of three months and the remaining half at the end of six months. In none of the animals did we find any evidence of simple or malignant tumours as a result of inoculation. In the animals which died from natural causes we found large tapeworm cysts in the liver and in a few cases pneumonia. In those animals which died as a result of the inoculation the cause of death was found to be either peritonitis or broncho-pneumonia. In the animals which survived and were killed at three and six months nothing abnormal

TABLE II.—TABULATED SUMMARY OF THE CASES.

No.	Nature of tumour.	Ulcerated or not.	History.	Organisms present.	Presence or absence of the "micrococcus neoformans."
*1	Recurrent epithelioma of the neck.	Yes.	3 months.	Polymorphic micrococcus.	Present.
2	Epithelioma of the neck, secondary to the tongue.	Yes.	12 ,,	Solitary micrococci; streptococci; diplococci; short bacilli.	Absent.
3	Epithelioma of the tongue.	Yes.	12 ,,	Streptococci.	,,
4	Fibro-adenoma of the breast.	No.	3–4 years.	Streptococcus longus.	,,
5	Carcinoma of the breast and axillary glands.	No.	6 weeks.	None.	,,
6	Sarcoma of the breast and axillary glands.	No.	4 months.	Polymorphic micrococcus obtained from the axillary gland.	Present.
7	Mastitis.	No.	—	None.	Absent.
8	Epithelioma of the jaw (recurrent) secondary to the lip.	No.	3 months.	,,	,,
9	Recurrent carcinoma of the axillary glands, secondary to the breast.	No.	4 ,,	Streptococci.	,,
10	Carcinoma of the breast.	Yes.	2 years.	,,	,,
11	Myxoma of the parotid.	No.	—	Polymorphic micrococcus.	Present.
12	Epithelioma of the lip.	Yes.	4 months.	Streptococci.	Absent.
13	Carcinoma of the left breast.	No.	—	None.	,,
14	Carcinoma of the right breast and axillary glands.	No.	7 weeks.	,,	,,
*15	Recurrent epithelioma of the neck.	No.	3 months.	Polymorphic micrococci; short bacilli.	Present.
16	Epithelioma of the lip.	No.	3 ,,	Micrococci.	Absent.
17	Recurrent carcinoma of the breast and axillary glands.	No.	4 ,,	Polymorphic micrococci; streptococci in growth; polymorphic micrococci in gland.	Present.
18	Recurrent carcinoma of the breast.	No.	4 ,,	Polymorphic micrococcus.	,,
19	Paget's disease of the right breast.	Yes.	4 years.	None.	Absent.
20	Carcinoma of the breast.	No.	9 months.	Polymorphic micrococcus.	Present.
21	Recurrent carcinoma of the axillary glands, secondary to the breast.	No.	2 years.	None.	Absent.
22	Lymphadenoma of the left neck.	No.	—	Streptococci.	,,
†23	Carcinoma of the breast.	No.	4 months.	None.	,,
24	,, ,,	Yes.	12 ,,	,,	,,
25	,, ,,	No.	2 years.	,,	,,
‡26	Sarcoma of the breast.	No.	1 month.	Micrococci; small bacilli.	,,
†27	Recurrent carcinoma of the supraclavicular glands, secondary to the breast.	No.	4 months.	Staphylococcus; polymorphic cocci; small bacilli.	Present.
*28	Recurrent epithelioma of the neck.	No.	4 ,,	Polymorphic cocci; small bacilli.	,,
29	Melanotic sarcoma of the breast, axillary glands, and abdominal wall.	No.	1 year, 7 months, and 6 months respectively.	Breast: Polymorphic bacilli. Glands: Polymorphic micrococci. Abdominal wall: Large and small micrococci.	Present (only axillary glands).
30	Granuloma of the liver.	No.	18 months.	None.	Absent.
31	Carcinoma of the breast and axillary glands.	No.	19 ,,	Polymorphic bacilli; polymorphic micrococci; staphylococci.	Present (in grow only.)
32	Fungating carcinoma of the breast, enlarged glands, axilla, &c.	Yes.	12 ,,	Streptococci; bacilli.	Absent.
‡33	Sarcoma of the breast (recurrent) and axillary glands.	No.	3 weeks.	Streptococci; bacilli (in growth).	,,
34	Carcinoma of the breast.	No.	2 ,,	Micrococci; small bacilli.	,,
35	Carcinoma of the breast and axillary glands.	No.	—	None.	,,
36	Carcinoma of the breast.	No.	2 weeks.	,,	,,
37	Lymphadenoma of the left neck.	No.	18 months.	Streptococci.	,,
38	Recurrent epithelioma of the glands in the groin, secondary to the foot.	No.	1 month.	Streptococci.	,,
39	Chronic adenitis of the inguinal glands.	No.	8 months.	None.	,,
40	Carcinoma of the breast and axillary glands.	No.	2 years.	Streptococci *in gland only.*	,,
41	Carcinoma of the breast (in lactation) and axillary glands.	No.	2 months.	Diplococci in growth resembling the pneumococcus.	,,
42	Carcinoma of the breast and axillary glands.	No.	2 years.	None.	,,
43	Carcinoma of the breast and axillary glands.	No.	1 month.	Polymorphic cocci in growth and gland.	Present.
44	Fibro-adenoma of the breast.	No.	10 months.	Small bacilli.	Absent.
45	Recurrent carcinoma of the infraclavicular glands, secondary to the breast.	No.	11 ,,	None.	,,
46	Carcinoma of the breast and axillary glands.	No.	5 ,,	Bacilli (in growth); polymorphic cocci (in gland).	Present (in glan only).
*47	Recurrent epithelioma of the neck.	No.	4 ,,	None.	Absent.
48	Carcinoma of the breast and axillary glands.	No.	2 ,,	Micrococci (in growth); bacilli (in gland).	,,
49	Lipoma of the axilla.	No.	3 years.	None.	,,

* Removed from the same patient at different times of recurrence. (See Case 1, Clinical Investigation.) † Removed from the same patient at different times of recurrence. ‡ Removed from the same patient at different times of recurrence.

was found beyond worm cyst in the liver in a small percentage.

It will thus be seen that the experimental results we have obtained by the inoculation of the "micrococcus neoformans" into rats and mice have in every case been of the inflammatory character analogous to those we should expect to result from the inoculation of these animals with organisms of the same class. In no single instance have we met with tumours, either simple or malignant, in the animals we have inoculated. Most of the microscopical preparations obtained from Dr. Doyen's own animal experiments, and which we had the privilege of examining in his laboratory during our visits to his clinique at Paris, appeared to us to be of an inflammatory nature. Some of them, however, bore microscopically a superficial resemblance to carcinomatous and sarcomatous formations and these were localised and very small, and were unaccompanied by secondary deposits in the lymphatic nodes or generalisation in the organs; nor were they accompanied by wasting or the other clinical attributes of malignant disease. The animals were killed by him at fixed intervals of three, six, and nine months. A few of the microscopical preparations resembled in their structure simple growths, such as adenoma, lipoma, and chondroma. It is known that rats and mice, in common with the rest of the animal kingdom, are liable to tumour formations. That mice are subject to cancer, analogous to cancer in man, and that *it may arise spontaneously* is now an established fact.

In no single instance has Dr. Doyen to our knowledge produced cancer in mice or rats. The fact that malignant growths can arise spontaneously in these animals makes it highly probable that simple growths might have a similar origin. If such is the case those tumours which Dr. Doyen has met with in the large number of mice and rats he has inoculated may have existed prior to the inoculation. He himself, however, attributes their formation to the action of the "microcococcus neoformans," with which the animals were inoculated, in that he found the organism present in the growths at the time he killed the animals some months after inoculation. It is well known that micrococci can exist for long periods in the tissues of the body as parasites; and if an animal possessing a tumour were inoculated with such an organism we think it is highly probable that it would settle in the growth, for in man a large variety of bacteria are often found to be present in tumours and appear in cultures taken from such growths, whilst they are absent in the neighbouring healthy tissues.

The presence of organisms in tumours admits of two explanations—firstly, in tumours arising from the deeper layers of the epithelium in the skin and mucous membranes, where organisms are constantly present, it is quite conceivable that the bacteria grow *pari passu* with the tumour and accompany it throughout its life-history, being carried in the secondary deposits to the lymphatic glands and to the metastases. A polymorpho-coccus differing from the micrococcus neoformans only in its manner of growth on gelatin and potato is found in the skin, and Dr. Doyen himself has discovered the "micrococcus neoformans" in the secretion of a breast which was not the seat of a tumour. Secondly, in those tumours which do not arise in connexion with the skin and mucous membranes it is probable that the organisms reach them through the lymphatics—in this connexion the occurrence of a streptococcus in pure culture in two of our cases of lymphadenoma of the neck is interesting when we consider how prevalent this class of organism is in the mucous membrane of the throat. The streptococcus obtained from these two cases, inoculated beneath the skin of rabbits, was not followed by any neoplastic changes in the nearest lymphatic glands.

In conclusion, we would say that the organism which Dr. Doyen has named the "micrococcus neoformans" is, in common with other micrococci, often present in malignant tumours; but in our opinion it is not present in sufficient numbers, or with reasonable constancy, to be regarded as the etiological factor in the evolution of these growths. Moreover, in our hands the inoculation of animals with this organism is not followed by the formation of neoplasms but by the expression of an inflammatory reaction.

HOSPITAL SUNDAY FUND AT BRISTOL.—At a meeting of the committee of this fund held on March 29th it was stated that £2076 had been received this year against £2053 in 1905. The following grants were made: Royal Infirmary, £811; General Hospital, £680; Children's Hospital, £257; Eye Hospital, £121; and £120 were distributed among the dispensaries and smaller hospitals.

A NOTE ON

THE PATHOLOGY OF GANGRENE AND PERFORATION OF THE HOLLOW ABDOMINAL VISCERA AND "ACUTE PERFORATING ULCER OF THE STOMACH."

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CERTAIN of the hollow viscera—viz., the gall-bladder, the vermiform appendix, the cæcum, the urinary bladder, and the stomach—are subject to gangrene followed by perforation as the result of acute intra-visceral tension. In all, the condition is likely to be complicated by the intrusion of micro-organisms, but we suggest that mechanical causes are the chief factors in its causation. The striking similarity of the pathological appearances met with in all these viscera suggests a probable similarity in their origin. It seems to us extraordinary that this should have escaped notice, but, so far as we can find, little has been done to show how the behaviour of one of them under certain stimuli may be a guide to the conduct of the others in similar circumstances.

Our present paper only concerns patchy gangrene followed by perforation; this follows certain laws and is to be found affecting all the viscera that we have named. In all the forms of gangrene which we are considering the lesion commences as a small patch more or less circular in outline and at that portion of the wall of the viscus farthest from the source of its vascular supply.

The gall-bladder.—In the gall-bladder perforation generally occurs through a gangrenous patch at the fundus and is due to a stone impacted in and blocking its neck or the cystic duct, thus causing retention and consequent infection of the contents. Yet the perforation is not due purely to mechanical causes, for mechanical distension of the gall-bladder sufficient to produce rupture causes a leak near the neck of it, not near the fundus. The gangrenous patch at the fundus is roughly circular in shape and occurs at the position farthest removed from the origin of the cystic artery.

The vermiform appendix.—In the vermiform appendix, acutely inflamed and distended, gangrene first appears as a patch towards the tip and opposite its mesentery—that is, farthest from the origin of the branch of the ileocolic artery which supplies it. It is of some interest to note that in a single case of acute appendicitis, in which one of us (R. M.) excised the appendix only five hours after the commencement of the attack, there is shown a small patch in the position named of the lining mucous membrane which already exhibited signs of gangrene.

The cæcum.—More than once in opening the abdomen for intestinal obstruction due to stricture of the colon we have seen a gangrenous patch or patches circular in shape on the distended tense cæcum. These occur on its anterior surface in the neighbourhood of the anterior longitudinal band, that is, in the position farthest from the source of its vascular supply.

The urinary bladder.—For the urinary bladder the same rule appears to hold good. A man, aged 25 years, was admitted to the Royal Infirmary under the care of one of us (R. M.) suffering from retention of urine of four days' duration due to gonorrhœal prostatic abscess and excessive whisky drinking. His peritoneal cavity was distended with urine which had escaped through "a small round opening scarcely so large as a split pea, of grey ashy colour, at the superior portion of the posterior wall of the bladder"—i.e., the portion farthest from the main supplying vascular trunks.

The stomach.—Certain so-called ulcers of the stomach, we suggest, have a similar causation; the reasons on which this observation are based require some consideration. It is recognised by all authorities that there are two distinct types of "ulcer" of the stomach—(1) acute, and (2) chronic, and that the pathological causes of both are still undetermined. The chronic ulcer, with long history of previous gastric trouble, usually situated about the lesser curvature, of irregular shape, and with hard edges, does not concern our present remarks. The so-called acute ulcer, which is comparatively rare, is of great interest in the present connexion. It is situated on a line drawn along the stomach from the centre of the cardiac to the centre of the pyloric orifice—i.e., farthest from the main vessels of supply. Unlike the chronic ulcer it is strikingly circular in shape. Its edges are not infiltrated or hard and examination of recently perforated specimens shows that the edges of the perforation are composed of gangrenous tissue. A frequent history noted by all observers is that serious stomach symptoms have not, as a rule, preceded the attack. Another point frequently observed, and which our view only, we think, explains, is that a second ulcer may be found on the posterior wall at a spot opposite that on the anterior.

We are indebted to Dr. J. Collingwood Stewart, late resident house physician at the Royal Infirmary, for an answer to certain questions which we considered might be usefully inquired into in the history of cases of gastric ulcer. The first was as to symptoms which might be caused by attacks of acute distension of the stomach. He ascertained that, with few exceptions, patients in whom a diagnosis of gastric ulcer had been made were subject to attacks of *epigastric pain with a feeling of distension, accompanied by* breathlessness, sufficient to necessitate loosening corsets or tight bands. In all cases where the diagnosis was verified by operation these symptoms were present.

We thought that excess of hydrochloric acid in the stomach might be accounted for by an extra consumption of sodium chloride and the second question referred to the liking for salt. Dr. Stewart's inquiry showed that out of 40 chlorotic girls more than one-half (25) took an unusual quantity of salt. Of 30 patients with symptoms of gastric ulcer three-fifths liked salt in excess. One "carried a piece constantly"; another "took a pinch whenever she got a chance."

Our view briefly is that excess of hydrochloric acid in the stomach, by producing pyloric spasm and acute gastric distension in an anæmic girl, gives rise to a small gangrenous patch or patches in the stomach wall, and that subsequent digestion of the dead or devitalised patch, if all the coats are involved, leads to perforation. It is generally recognised that the stomach juices in certain circumstances destroy its own wall. We may add that a sudden attack of distension due to pyloric spasm in the case of a chronic ulcer probably accounts for perforation in many instances.

Newcastle-upon-Tyne.

THE RESULTS OF OPERATION FOR RADICAL CURE OF HERNIA.[1]

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THE aim of this paper is to test in the most stringent manner possible the results of an operation—that for radical cure of hernia—which now occupies a large proportion of the surgeon's time and energy. I find, for example, that over 500 out of a total of 4500 operations which I have performed in the London Hospital during the last 15 years have been done on herniæ. Thus it is probable that at least one-tenth of the general run of surgical operations in our hospital work is directed to obtaining the radical cure of hernia. The proportion of the different forms may be roughly estimated from my own record: inguinal hernia, 360; femoral hernia, 100; and umbilical, ventral, &c., herniæ, 50. These include about 150 cases of strangulated hernia. The answer to the question,—In what proportion is a permanent and complete cure obtained?—has been a varied one. As Mr. John Langton wrote in 1899[2]: "Afterwards ...... is after all the crucial test of our operative work; at present this 'afterwards' too often lies buried in the depths of the great unknown from causes over which we have but little control." Mr. Langton limited his consideration to cases of inguinal hernia in private practice and concluded, without giving exact statistics, that "in properly selected cases cures will result temporarily, at any rate, in about 80 per cent., but it is probable that relapses are not infrequent."

I would urge that hospital patients afford a better test of the operation for radical cure than do private ones, granting that it is more difficult to follow up those belonging to the former class. It is in those who are engaged in hard manual labour—in stokers, soldiers, railway porters, and the like—that the result of our procedure is best estimated. Moreover, certain conditions must be thoroughly applied, especially with regard to the length of time that has elapsed since the operation. Bassini, to whom surgeons are indebted for having shown the importance of opening up the inguinal canal in the great majority of cases, reported cures in no less than 96 per cent. But his limit of time—nine months or over—was certainly too short and to some extent invalidates his statistics. I have taken as the shortest limit two years from the operation, but so many of my cases have been examined seven, eight, or even ten years afterwards that the average works out at about six years. This will probably be accepted as sufficient. If a man has engaged in his ordinary work for six years after the operation and shows not the smallest sign of recurrence the term "radical cure" may fairly be applied. Again, differing from some authorities, I reject the use of any truss after the operation, since the *patient has submitted to it*, as a rule, in order to dispense with the inconvenience of wearing one. In four or five of the cases included in my list the patient has of his own choice worn a truss at some time or other after the operation but not on account of recurrence. In all cases of umbilical hernia after operation an abdominal belt should be worn; in a few examples of inguinal hernia (especially the direct form) and of femoral hernia in elderly people a truss is ordered after the operation. But in the statistics that follow it will be understood that these conditions have been carefully observed: (1) that at least two years, and on an average from five to six years, have elapsed before the result is tested; (2) that no truss has been ordered to prevent recurrence and that within six weeks of the operation (often less) the patient has been directed to return to his work; (3) that the smallest tendency to bulge at the site of operation has been considered as a recurrence of the hernia; and (4) that any development of a hernia at another site has been recorded. The last point will be found to be of considerable importance, though it is curiously omitted by nearly all the writers on the subject.

The result of operation for radical cure on inguinal hernia.—Formerly it was considered inadvisable to operate on hernial subjects (apart from strangulation) who were over 40 years of age. But of late years this limit has been extended and in my list six patients were 50 years old or over. The best results of all are certainly to be obtained on young children, but it happens that only four of the cases in my list were under the age of five years at the time of operation. The great majority were men between 20 and 40 years of age. I have followed up 109 patients after operation on inguinal hernia with the limit of at least two years. In four of these the herniæ were double, making a total of 113. 13 were cases of strangulation (with five recurrences) and it seems fair to leave these out since several were patients of very advanced age, three being 55 years old, one 65 years, and one 74 years. Out of 100 cases primarily done for radical cure, eight of the herniæ have relapsed *in situ*; of these in five the recurrence was pronounced, one very slight, and two doubtful. Seven patients have since the operation developed an inguinal hernia on the opposite side and one a femoral hernia. I must admit that this result, 8 per cent. or less of true recurrence, is somewhat better than I had expected.

After all, the formation of a hernia elsewhere does not detract from the original operation being termed a radical cure. And if, judged from the most severe standpoint, the proportion of relapses is only from 6 to 10 per cent., the use of the words "radical cure" is thoroughly justified. The statistics of several surgeons relating to Bassini's method practically agree with my own. Thus Carlé and Nicoladoni found 6 per cent. of relapses *in situ*, and Ceccopieri and Scarrone 7 per cent. One may be allowed some suspicion of the much more favourable results that are now and then brought forward. Thus Lucas-Championnière claims to have had only 4 per cent. of recurrence but in one of his tables it will be noticed that only half the total number were followed up for more than two months! This fact, to my mind, renders valueless his statistics, since recurrence, if it does follow, usually occurs from nine to 18 months after the operation. There is, of course, no infallible limit and of the eight cases of recurrence in my list one developed two years and two others three years after the operation; until that time had elapsed the cure appeared to be perfect. Some of my cases were operated on 15 years ago and there is no doubt that improved methods during this time have diminished the proportion of recurrence. Mr. Langton quotes Tilanus's statistics in 1879 of only 10 per cent. of cures and Socin's of only 40 per cent. It is, however, surprising to find Bull, in a fairly recent paper, stating that 60 per cent. of his cases ultimately relapsed. There must surely have been some grave fault in the form of operation.

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[1] A paper read before the Medical Society of London on March 28th, 1906.

[2] Transactions of the Medical Society of London, 1899, p. 204.

Before considering the question of the relative value of the different methods now employed I may allude to one satisfactory fact that came out in the investigation of the cured cases. Practically without exception these patients stated that their operation scars never gave them the slightest trouble and many expressed themselves as improved in general condition and vigour by the removal of the hernial protrusion.

The best methods of radical cure.—I believe that on only two points are surgeons unanimous with regard to the details of radical cure—first, that the incision should be made directly over the inguinal canal, and secondly, that the hernial sac should be separated from the cord as high as the internal ring and there closed by ligature. But with regard to the next question—Should the canal be opened up by division of the external oblique?—much diversity of opinion has been expressed. Some (for example, Mr. Edmund Owen[3] and Mr. T. H. Kellock[4]) express some fear of weakening the canal by this cause and urge that a cure can be obtained without it. This may fairly be admitted in the case of young boys, though even in them it is easier to deal thoroughly with the sac after the aponeurosis has been divided. I believe, with the majority of writers on the subject, that in order to narrow the canal it is advisable first to open it up as high as the internal ring and that careful suturing of the aponeurosis will leave it as strong as, or even stronger than, it was before. I have met with one case and one only in which the whole anterior wall of the canal bulged after such suturing (with kangaroo tendon). Primary union had occurred and I cannot account for this solitary exception. In the 100 cases quoted the aponeurosis was divided in almost all.

With regard to the method of dealing with the sac two chief opinions are held. Many surgeons *simply* tie the sac at the internal ring and let the stump *retract*; *others twist* and fix the proximal portion in a new position. I am a firm believer in the latter method. If the sac is of average thickness it is brought through a small opening towards the anterior superior spine and secured there (thoroughly twisted up) by a double tendon suture which *transfixes the* muscles and the sac. I have never met with a single case of recurrence at the spot where the twisted sac had been brought through the abdominal wall in *this* manner. If, however, as in some large old herniæ, the sac is very thick I tie it with a Staffordshire knot high up and pass both ends of the ligature on a mounted needle through the muscular wall near the anterior superior spine, subsequently knotting the ends tightly together so as to displace the stump upwards and outwards well under the thick muscles *in this* position. Sir William Macewen's plan of folding up the sac in the subperitoneal space has, I believe, gone out of use, and it appears to have little to recommend it.

Narrowing the inguinal canal.—The late Professor J. Wood was the true pioneer in all that relates to radical cure of hernia, and his contention that it was necessary to restore the valvular action of the conjoined tendon as well as to deal with the sac has been abundantly proved It is shown especially by the greatly improved results that have been obtained since Bassini introduced the *open* method of suturing the conjoined tendon, behind the cord, to Poupart's ligament. For practical purposes the methods of narrowing the canal are only three: (1) Its complete obliteration between the external and internal rings behind the cord (Halsted); (2) narrowing it in front of the cord by sewing down the internal oblique and transversalis (Professor Wood, Sir William Macewen, and others); and (3) narrowing it behind the cord (Bassini). The second method is sometimes wrongly described as obliteration of the canal. All three methods are good, though not one of them absolutely guarantees the patient against all chance of recurrence.

In cases which have been previously operated on, in inguinal hernia in women, and in cases of retained testis where the organ cannot be brought down to the scrotum, the complete obliteration of the canal should be practised. There are some others in which the conjoined tendon is poorly developed and cannot be sutured to Poupart's ligament without undue strain—for these also Halsted's method is advisable.

Of the other two, Bassini's plan—narrowing the canal posteriorly—is probably the most efficient, and it has the endorsement of many surgeons. Of my 100 cases the majority were operated on by Bassini's method; in the earlier ones no formal narrowing of the canal was practised, whilst in about 20 either the canal was obliterated or its anterior wall was tightened up. Of the eight cases of recurrence Bassini's method has been employed in two, Macewen's in one, whilst in five the sack had been twisted and displaced without formally narrowing the canal. This, I think, is conclusive evidence that in adults thorough dealing with the sac alone does not suffice. It should be noted that one patient with poorly developed muscles had a double hernia and recurrence followed operation on both sides, counting as two cases. Another, a case of double direct hernia, recurred on one side only after Bassini's operation had been done on both. A third patient proved to be so unruly and violent after the operation that recurrence of the hernia was only to be expected. Two cases are included as doubtful recurrence; in them no bulging could be made out on examination but the patients stated that it sometimes was present.

It has been urged against narrowing or obliteration of the inguinal canal that orchitis, varicocele, and hydrocele frequently result. In my own cases I could not ascertain that any one of these complications had happened. In one patient the testis was hard and lumpy, but reference to the notes proved that it was in this condition before the operation. In another a slight varicocele was present. When the canal is so narrowed as to injure the vessels of the cord there is undoubtedly a risk of subsequent orchitis or even atrophy of the testis. But I think this can be prevented by observing the effect of the suturing at the time of operation on the circulation in the cord. And unless there is a true varicocele present it is both unnecessary and inadvisable to excise any of the vessels of the cord. In former years when surgeons were given to suturing the pillars of the external ring closely together these testicular complications were frequent, and their free occurrence after the use of silver wire (Bloodgood and Halsted[5]) will be alluded to later.

The material for the deep sutures.—If it be taken as proved that narrowing or obliteration of the canal is advisable in the great majority of cases it follows that the use of deep or buried sutures is a necessity. Although sterilised silk is still employed by a large number of operators I have no hesitation in expressing my preference for kangaroo tendon. Mr. Langton, Mr. G. R. Turner, and others have written in its favour. My own experience of kangaroo tendon goes back to 1890, since which time I have buried in the patients' tissues many thousands of tendon sutures. Unlike silk they hardly ever work out and they can be kept in perfect condition for years in an alcoholic solution of carbolic acid; no material is at once so strong, supple, and non-irritating. It is a delusion to think that they are absorbed in a month or two for I have had occasion to examine such tendon sutures two and three years after I had inserted them. Whilst blending with the surrounding fibrous tissue to some extent they can still be recognised at the end of this time. The fact is the tendon *is not absorbed* but becomes part of the living tissues. Like every other surgeon who has used kangaroo tendon much, I have known a few cases in which these buried sutures have caused suppuration, but as Mr. Langton points out, the trouble is soon over, whereas buried silk or silkworm-gut may sometimes worry the patient with sinuses for *months*. *If the* tendon does irritate it has probably been over-prepared with biniodide of mercury or some other unsuitable antiseptic. It is most important just before the operation to transfer it from the alcohol to sterile cold water, in which it should lie for 20 minutes or so. I cannot understand any operator who has given a thorough trial to the tendon for buried sutures ever being afraid of inserting them or of wishing to change to any other material. Professor Wood used kangaroo tendon in many of his cases and silver wire (which he subsequently removed) in others. Of late years some American surgeons have advised silver wire for all the sutures, buried and superficial. In Mr. Bloodgood's voluminous work on hernia already mentioned,[6] a long series of cases are given in which the canal was narrowed or obliterated by silver wire; in some of them the rectus muscle was dragged down to Poupart's ligament by means of it. The silver wire is supposed by the writer to exert an antiseptic action on the tissues, an action which can only be superfluous if asepsis be obtained. To my mind no region of the body is less suitable for burying silver wire than the groin and its drawbacks were experienced by Mr. C. B. Lockwood,[7] who tried the method in 15 cases with dismal results. In Bloodgood's cases, whatever was the result as regards recurrence of the hernia, the number of troublesome complications recorded is most remarkable. Induration of the epididymis was even referred to as being usual (p. 428) and orchitis followed by atrophy of the testis was frequent. Yet the result in the latter cases was termed "perfect" (p. 480 and elsewhere). Hæmatoma of the scrotum, sloughing of part of Poupart's ligament (p. 427), œdema of the lower limb from obstruction of the femoral vein (three cases), and other complications which could be quoted make up a formidable list which should deter surgeons from using these rigid wire sutures in the radical cure of hernia.

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[3] The Practitioner, March, 1906.

[4] Archives of the Middlesex Hospital, vol. vi., 1905.

[5] Johns Hopkins Hospital Reports, vol. vii.

The operation on femoral hernia.—I have only succeeded in following up 16 cases for more than two years, 14 women and two men. The average period at which they were last traced was four and a half years after operation, the average age of the patients at the time being 42 years. There were two recurrences—i.e., 12 per cent. In one of these the recurrence took place three years after operation. In the other case the patient was nearly 60 years of age and had chronic bronchitis. She would not have been operated on for radical cure but for the fact that the hernia was strangulated. Although the number of cases is not large it bears out the statement of Mr. Bloodgood[8] that "the cure of a femoral hernia is not a difficult problem."

I have occasionally turned up a flap of pectineus muscle to close the ring, but in the great majority of cases I have twisted and fixed the neck of the sac high up with kangaroo tendon and then sutured with the same material Poupart's ligament to the deep fascia, using two or three separate buried sutures. One has to be careful to avoid injurious pressure on the femoral vein; in one case there was evidence of this, the patient's leg swelling from time to time. In one case of strangulated femoral hernia interesting evidence was obtained of the efficiency of the method alluded to. The patient was an old woman who was suffering from bronchitis, from which she died four days after the operation. At the post-mortem examination I found the femoral ring to be well closed; it resisted firm pressure from above made with the finger.

I have had no personal experience with Roux's method of radical cure—fixation of Poupart's ligament to the pubis by means of a metal staple. Mr. J. Crawford Renton[9] records 25 cases of its use and speaks highly of it. Roux is said to have operated 136 times in this way with only two recurrences of the hernia. The objections that might be raised—viz., that the staple would be liable to work loose and that the femoral vein might be compressed too much—are presumably without much ground. The method seems especially indicated where the femoral ring is widely patent.

One point in the after-treatment of radical cure may here be alluded to—the length of time requisite to secure a sound scar. In both inguinal and femoral cases the wound is, as a rule, soundly healed at the end of a fortnight or three weeks. Is it necessary to insist on the patient resting for more than this time? Some operators, I believe, require two or three months' abstention from work on the part of their patients. But with working men this is a very serious consideration and may mean the entire loss of their previous employment. I see no reason for believing that such prolonged rest is required and have therefore never advised it.

In conclusion, with regard to the radical cure of inguinal hernia the following observations may be made: (1) In all but the simplest cases in children it is best to open up the canal and to narrow it by deep sutures; (2) suturing the conjoined tendon to Poupart's ligament behind the cord by a series of interrupted sutures is probably the best method of narrowing the canal; (3) where the conjoined tendon is deficient, in all recurrent cases, and in inguinal hernia in women the canal should be obliterated; (4) kangaroo tendon is admirably adapted for the suture material, silver wire being probably the worst; (5) recurrence of the hernia *in situ* may possibly take place at any length of time after the operation, but if two years be adopted as the limit it should not occur in more than from 5 to 8 per cent.; and (6) the development of a hernia at another site after operation may be expected in a proportion of cases at least as large as that just given.

Park-crescent, W.

ON THE TREATMENT OF CANCER BY THERAPEUTIC INOCULATIONS OF A BACTERIAL VACCINE,

CONTROLLED BY MEASUREMENTS OF THE OPSONIC POWER OF THE BLOOD.[1]

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THE researches which we have made in connexion with cancer have convinced us: (1) that we have in cancerous cachexia a specific micro-organism, the micrococcus neoformans of Doyen; (2) that the anti-cancerous sera of Doyen with which we have experimented are wholly useless; and (3) that it is practicable to immunise the human organism by means of a series of inoculations of the micrococcus neoformans vaccine provided that these are properly controlled by examinations of the opsonic power of the blood.

In connexion with the first of these subject matters it will suffice to recall to mind that those bacteriologists who, like Metchnikoff, have sought in the different forms of neoplasia for the micrococcus neoformans by the technique prescribed by Doyen have succeeded in finding the micro-organisms, the cultures obtained in the different laboratories being all identical. We ourselves have cultivated the micro organism from 90 per cent. of the tumours examined. Furthermore, we have succeeded in producing localised or generalised neoplasic lesions in 30 per cent. of the cases by inoculating young and vigorous cultures of the micro-organism into mice and white rats. Lastly, as a final argument we shall prove in the course of this paper that the micrococcus neoformans is without doubt the agent of cancerous cachexia.

With regard to the serum of Doyen the clinical results were negative, as our experimental researches made on laboratory animals had led us to expect. This serum was destitute of bactericidal, bacteriolytic, agglutinating, or opsonic power. This serum, had it really possessed the requisite qualities, would have been a precious instrument in the hands of the therapeutist for raising rapidly the defensive power of the cachectic individual; it ought to be discarded.

The vaccines, on the contrary, can give results in careful hands but their inoculation should be made under constant control if it is desired to avoid the bad results which we soon found out when using them. In fact, the vaccines of Doyen are unstandardised vaccines. In view of the principles of immunisation as expounded by Wright we grasped one after another the "why" of the variations, of the mortifications or the negative results obtained by the inoculation of doses of vaccine in the rule-of-thumb manner as advocated by Doyen.

To avoid these accidents we propose the employment of a vaccine made from cultures of the same age, sterilised at 60° C., washed freely, and standardised by the enumeration of the bacilli as advocated by Wright. The antibacterial reaction, which is the method of protection of the body, must be closely watched after inoculation. The method which we have employed is based on the plan of defence employed by the body in its struggle against the micrococcus neoformans. This plan is neither bactericidal nor bacteriolytic—it is phagocytic. This phagocytosis takes place owing to the presence of an element capable of combining with the *micrococcus neoformans* and of preparing it for intracellular digestion. This substance, named "opsonin" by Wright (from *opsono*, I prepare), can be discovered and measured in a drop of blood by means of the technique of Leishman, modified by Wright and Douglas. The blood of all our cancer patients was found below normal with respect to its opsonic action upon the micrococcus neoformans; and the opsonic index undergoes variations in strength after each injection of the micrococcic vaccine. The selection of the dose of vaccine and of the appropriate times for the inoculations was based on the examination of the alterations in the opsonic power of the blood. These variations have been carefully studied for a year in all patients subjected to the vaccine treatment and we wish to lay before you the experience gained by us with regard to the rational treatment of cancerous patients.

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[6] Bloodgood and Halsted: Johns Hopkins Reports, 1900.

[7] Lockwood: Transactions of the Medical Society of London, 1905, p. 162.

[8] Johns Hopkins Reports, 1900, p. 365.

[9] Contributions to Clinical Surgery, p. 140.

[1] Synopsis of a paper communicated to the Royal Belgian Academy of Medicine on Jan. 27th, 1906.

The general conclusion which emerges from our study is that in certain cases the vaccine can do much, in others it can do nothing. Just as a tubercle vaccine judiciously administered does not cure all tuberculous cases, so a "cancer vaccine" cannot cure all cancerous cases. This question of success or failure in cases apparently alike depends entirely upon the reserve of vital energy and the capacity for reaction which each patient possesses, and this differs in each case. With regard to the immunising we can express a definite prognosis after two or three injections of the vaccine, the alterations effected in the quantity of the opsonins expressing accurately the strength of the auto-protective reaction. For example, when the opsonic index does not rise after one or two injections the case is irremediably lost, the immunity has fallen to the lowest degree, the defensive powers seem exhausted and cannot be stimulated by anything. Continued injections in such cases can only hasten the death of the patient, since each injection of the vaccine removes a certain amount of the protective substances, and as no phase of manufacture, no positive phase, succeeds to this, we only set up a dangerous cumulation of negative phases, leading the patient to an early death.

Let us now consider what occurs in the most favourable cases after an appropriate dose of vaccine has been inoculated. Let us imagine a cancerous patient the examination of whose blood reveals an opsonic index below normal, say, 0·7. An injection of the vaccine is now made. A blood examination undertaken several hours later shows a more or less marked negative phase, more or less transient, with the auto-protective power of the blood lowered to 0·5. Two days later a positive phase succeeds it; an abundant production of protective substances has occurred, the blood possesses defensive powers superior to those met with in the normal individual, and the opsonic index has risen to 1·2. This remains constant for a variable time and then shows a tendency to return to its former level. The time has now come to intervene with a second injection. This done we again see the succession of negative phase, positive phase, plateau of increased protective power, and subsequent descent; with this difference, that the lowest level to which the opsonic power is reduced in the negative phase is 0·8, while the immunity in the positive phase is raised to 1·8, nearly double the normal strength of the blood. These fluctuations in the protective power of the blood have been described by Wright in the phrase "ebb and flow and reflow and maintained high tide of immunity," and again in the phrase "cumulation in the direction of the positive phase." When the curve of immunisation follows this course the patient is one in whom the cancerous development seems arrested. Locally, the surrounding infiltration decreases, the cancerous nodules are reduced to their actual size, the tumour seems to fade, and the skin loses its inflamed appearance. In the case of intra-abdominal tumours this improvement is manifested by the fact that the tumours become moveable and by the fact that their limits can now be defined. The general condition is rapidly modified and the most striking fact observed at the beginning of the treatment is that the patient loses his cachectic colour, the pain is diminished, and, in short, the disease seems to be arrested. This is the time when surgical intervention is likely to be successful if the disease is situated in an organ which is removeable. We advise that this interference should, as formerly, be as extensive as possible, for it cannot be doubted that symbiosis with a mass of newly formed—shall we say teratological?—tissue must go hand in hand with the elaboration and absorption of products injurious to the organism.

To take away a neoplastic mass is to suppress a constant source of cellular toxins in an organism which is already painfully struggling against an infection which is infiltrating everywhere. It is quite evident that we cannot expect an anti-neoplastic vaccine to cause softening or complete disappearance of large tumours in a few days and even supposing that it were possible to bring about a necrotic change in a large tumour the organism would not be capable of dealing with and eliminating more than a limited quantity of the products of such cellular metabolism. It would succumb to the harmful effects of an excess of this cellular débris. We cannot demand a therapeutic method to perform more than it can reasonably be expected to do. If it is capable only of holding in check a disease otherwise confessedly incurable we ought, therefore, to employ it as early as possible. We have more chance of success in our attempts to produce active immunisation if we take the disease at the start, when the patient still has much undeveloped defensive power which otherwise would be used slowly and uselessly in such an unequal and insidious contest as is waged between the organism and the invading neoplasm.

Unfortunately, our task is the most difficult, because the patients almost always come to us in a more or less advanced cachectic condition; only with comparatively few can we produce the curve of immunisation which would lead to their cure. What should we do in such cases? The examination of the blood will assist us. The lower the opsonic index the more cautiously should we proceed by inoculating the smallest initial dose of vaccine so as to avoid too marked a negative phase. As soon as a positive phase is obtained reinoculation is to be resorted to only when that curve begins to decline. We had, in point of fact, in the days before we instituted the method of control which now guides all our operations, recognised that patients who appeared to improve markedly at the beginning of the treatment presented, when the treatment was pursued, a sudden aggravation of their local and general condition—an aggravation which was in every case definite and incurable.

To present a concrete picture of the events which supervene upon inoculations conducted as we now conduct them we shall sum up observations on a few patients showing the different results observed in cases as they present themselves in practice.

1. *Case treated solely with a neoformans vaccine showing a typical immunisation curve.*—A patient, aged 56 years, under the care of Dr. Degueldre of Anvers, came to us 12 months ago suffering from inoperable cancer of the rectum with signs of profound cachexia in addition to constant functional troubles. On admission her opsonic index was found to be 0·7. The vaccine injections immediately started, safeguarded by inoculations as explained above, gradually raised the protective substances of the blood to 0·8, 0·9, and after several months to 1·2, 1·1. To-day the patient has no symptom beyond slight constipation. The general condition is excellent; the characteristic complexion has disappeared, giving place to a perfectly normal appearance. Rectal examination reveals an indurated ring situated high up, quite mobile; this is all that remains of the enormous immoveable mass found before the treatment. The present lesion has remained stationary for more than ten months.

2. *A case treated with therapeutic inoculations of a neoformans vaccine and surgical interference; typical immunisation curve and "cure."*—The patient, aged 64 years, was suffering from cancer of the body of the uterus with very pronounced cachexia. Six weeks before we saw her she had undergone a palliative operation, performed by Professor Kufferath. The blood examination revealed that the opsonic index was below normal—0·65. Three vaccine injections were administered which brought up the opsonic index from 0·65 to 0·9. At the same time the general condition was improved; the uterus became moveable and justified a radical operation which had been considered impossible three weeks previously. Since the operation the opsonic index has risen above normal and we confine ourselves at present to maintaining the defensive properties of the blood at this level by injections at long intervals. The

covered by a few flattened epithelial cells and resting on the submucosa of the conjunctiva, which latter shows no evidence of infiltration. The cells of the nodule are arranged in large alveoli and are mostly small with a large nucleus. At the centre of each alveolus are some large epithelial cells. The tumour is non-pigmented and contains a few small blood-vessels resembling capillaries. Diagnosis: The tumour is no doubt a congenital mole. *Recurrent growth.* The tissue consists of the whole thickness of the conjunctiva, in the deeper tissues of which is a small round nodule. This nodule consists of cells resembling the smaller cells of the primary tumour. The nodule is not encapsulated and in one portion the cells are infiltrating the surrounding tissues. The conjunctiva is more vascular than usual. There are no definite blood-vessels in the nodule. Diagnosis: The tumour now is undoubtedly sarcomatous.

Unquestionably these reports show the tumour to have been an alveolar sarcoma, for although the primary growth microscopically is described as a mole it was no doubt clinically becoming a sarcoma—at least, the rapid increase in size noticed by the mother indicates this in all probability.

West Hartlepool.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL EAR HOSPITAL, SOHO.

A CASE OF CHRONIC SUPPURATIVE OTITIS MEDIA WITH CHOLESTEATOMA; RADICAL MASTOID OPERATION; COMPLICATIONS; HERNIA CEREBRI; TEMPORO-SPHENOIDAL ABSCESS; MANIACAL DELIRIUM OF LONG DURATION; RECOVERY.

(Under the care of Mr. MACLEOD YEARSLEY.)

FOR the notes of the case we are indebted to Mr. J. Arnold Jones, house surgeon.

A youth, aged 18 years, was first seen by Mr. Yearsley at the Royal Ear Hospital on Sept. 27th, 1905. The patient was suffering from a chronic discharge from the left ear of about five months' duration. He was sent by Mr. J. Blackwood of Southsea, under whose care he had been for some time and who some three weeks previously had removed polypoid tissue from the meatus. On examination a perforation was seen in the anterior part of Shrapnell's membrane through which a fœtid discharge issued. The watch could not be heard at all by the left ear and the tuning fork showed Rinné negative with bone conduction diminished by eight seconds. The patient complained of slight vertigo and vertical headache.

A thorough course of irrigation with perchloride solution (1 in 2000) and the instillation of hydrogen peroxide was the line of treatment at first adopted, but no improvement ensuing it was decided to perform the complete post-aural operation. This was done on Nov. 9th by Mr. Yearsley, assisted by Mr. A. Logan Murison, chloroform being administered by Mr. J. H. Chaldecott. The usual incision was made, the upper and posterior portions of the cartilaginous were separated from the bony meatus, and the whole ear was turned forwards. The antrum was then approached with a hand gouge and discovered to be much dilated and full of foul cholesteatomatous masses. There was a large hole, something under the size of a threepenny-piece, in the tegmen antri with a ragged tear in the dura mater through which a small knuckle of congested brain protruded. The "bridge" of bone between the antrum and the tympanic cavity was removed, a Körner's flap was cut in the cartilaginous meatus, the cavity was packed with gauze, the incision was sewn up, and the usual dressings were applied.

During the next three days the patient appeared to be comfortable and doing well, still, however, exhibiting a certain childishness or simplicity of manner which had been noted on his admission. The temperature, which was 99° F. on admission, oscillated between that and 99·6°. The pulse was 84, regular, and strong. On Nov. 13th the temperature became 101·4° and the first dressing was done. The post-aural wound was sound but there was a rather foul discharge from the meatus. Hydrogen peroxide was instilled and the cavity was syringed through the meatus with perchloride solution. On the 14th the temperature was normal; the wound was again dressed, the discharge being about the same. The general condition of the patient was quite good. The dressing was now done every day in the same manner; the discharge persisted, the temperature varying from normal to 100·6°. On the 18th, in the evening, the temperature reached 102°. The patient complained of headache and cold feet. The pulse was 84, strong, and regular. There were no ocular or other localising symptoms. On the 19th the temperature remained high and the dressing was very foul, the headache became worse, and the patient began to be restless. On the 20th the temperature at 11 A.M. was 102·8°. The patient had developed pains in the neck and back, the headache persisted, but the discharge, although still free, was sweeter in character. The tongue was very furred in spite of good action of the bowels resulting from aperients. The general appearance was quite good. There were no localising symptoms. The pulse was 92, strong, and full. He was ordered ten grains of calomel. On the 21st the patient seemed to be somewhat better. He was not so restless and the pains in the neck and back were less. The dressing was comparatively sweet but not so free. The temperature was 101°. Towards 8 P.M., however, he became much more restless. He did not respond very readily to questions and began to cry out loudly and frequently. 40 grains of potassium bromide having no effect five minims of morphine were ordered to be injected, but this and a further three minims only procured two hours' sleep.

On Nov. 22nd the patient appeared to be worse. He was more emaciated, his mouth was dry and ulcerated, and his tongue was very furred, although the bowels were freely acting. The pulse was 92, full, and strong. The temperature was 102·2°. At frequent intervals he uttered a curious animal cry; there were no localising symptoms of any kind. His knees were drawn up and the muscles of the legs were rigid. He apparently recognised no one and took no notice when spoken to. He was seen by Mr. Yearsley and Mr. R. Lake in consultation and further operation was decided upon. This was done the same afternoon by Mr. Yearsley, assisted by Mr. Lake and Mr. R. S. Cooke. Chloroform was administered by Mr. Chaldecott. The wound was reopened and the antrum was found to be filled by a gangrenous hernia cerebri. This was shaved off and a quantity of foul pus escaped. An abscess in the temporo-sphenoidal lobe was discovered of about the size of a walnut; this was evacuated and washed out. A large double drainage-tube was inserted. The post-aural wound was left open and the usual dressings were applied. After the operation the temperature at 6 P.M. registered 100·5° and the patient remained quiet until about 7 P.M., when he once more became very restless and more boisterous than ever; an injection of morphine (one-quarter of a grain) was given which, with one drachm of potassium bromide, kept him fairly quiet until 7 A.M. on the 23rd when he became uncontrollably noisy. The morphine (one-quarter of a grain) was repeated and again his delirium was held in check. At 2.15 P.M. he was dressed under ethyl chloride anæsthesia administered by Mr. Chaldecott. The tubes were irrigated with boric lotion but, with the exception of some organised clot, very little discharge came away. The temperature at 6 P.M. was 99°, the pulse was 92, and the respirations were 20. The patient again becoming very restless one drachm of potassium bromide every hour until he was quiet was ordered, but this having little effect after six drachms had been administered, an injection of a quarter of a grain of morphine was given and repeated in three and a half hours. In spite of these hypnotics only three hours' rest were obtained during the night, the remainder of the time being spent in tossing about the bed, shouting at intervals his curious piercing cry. The patient all this time took large quantities of nourishment in the form of whey and beef-tea, consuming in the 24 hours 35 ounces of the former and 13 ounces of the latter.

On Nov. 24th the patient slept all the morning, with the exception of an hour. At 2 P.M the wound was again dressed in the same manner as the previous day; it was in the same condition. The temperature varied from 99° in the morning to 101·2° at night. 30 grains of chloralamide, followed in three hours by eight grains of veronal, procured him five hours' sleep during the night. On the 25th he appeared weaker and more emaciated: he was still restless, though calling out at longer intervals and with a feebler cry. The pulse was 108, weaker, but irregular. The highest temperature was 101°. The wound was dressed under ethyl chloride anæsthesia. The tubes were removed. An offensive discharge came away. Gauze packing was inserted.

The patient now continued to become progressively weaker and more emaciated, though still restless and crying out, having little sleep in spite of the exhibition of chloralamide, veronal, and potassium bromide in large doses. He remained unconscious of his surroundings. At 2 P.M. on Nov. 27th he became more sensible, answering when spoken to, but with delayed cerebration, having to be kept rigidly to the point. On the 28th a gangrenous hernia cerebi was discovered in the cavity and excised, the healthy brain tissue being kept in the middle fossa of the skull by packing a piece of tinfoil against it with gauze. The pulse now became much weaker in character, easily obliterated, and varying in rate from 90 to 110, and somewhat irregular. His restlessness and noisiness became more difficult to control, chloralamide, veronal, potassium bromide, chloral hydrate, and morphine in large doses, separately and together, producing little result.

On Dec. 1st the mother for the first time admitted a definite family history of insanity. The exposed portion of the hernia cerebri being now covered with granulations the tinfoil was discontinued, the whole cavity being firmly packed with iodoform gauze after the usual cleansing with antiseptic lotions. During the next three days the patient lost still more weight, becoming very weak and emaciated though continuing his noisy delirium unabated and very little controlled by drugs. From 2 P.M. on Dec. 1st to 2 P.M. on the 2nd he was given two drachms of potassium bromide and 40 grains of chloral hydrate and two and a quarter grains of morphine by subcutaneous injection. All this time he was taking large quantities of nourishment in the form of milk, whey, and beef-tea. The temperature, which had shown daily variations between 99° and 101·8° until Nov. 27th, began on that day to fall gradually, remaining about normal during Nov. 30th and Dec 1st. On Dec. 2nd and 3rd it again rose, reaching a maximum of 99·8°, falling to normal on the 4th, to remain at that level during the remainder of his illness.

On Dec. 4th the patient's condition had reached its lowest limit and he was considered to be beyond recovery. He was taking much less nourishment, was extremely feeble and wasted in appearance, although unabatedly noisy and at times spasmodically violent. The pulse was 92, weak, and thready. The dressing for the first time was done without an anæsthetic, his general condition being deemed too bad. 30 grains of sulphonal and two drachms of paraldehyde were ordered; during the night he had further nine drachms of the latter drug, this combination producing the quietest night he had had since the second operation. On Dec. 5th the patient was a trifle better and was again dressed without an anæsthetic. This improvement was steadily maintained during the next couple of days, he took more nourishment, and passed comparatively quiet nights on large doses of paraldehyde. On the 8th he was very markedly better physically, while mentally he was more sensible than at any time since the second operation. The pulse was more full and steady. Very little discharge now came from the wound and the cavity was lined with healthy granulations. With some short lapses into noisy delirium he now progressed satisfactorily and on the 10th was allowed a little fish. On the 12th his mental condition showed a very decided advance; he talked quite sensibly, recognised the people about him, and answered questions with reason but somewhat delayed cerebration. He was taking very large quantities of food in the form of fish, minced meat, bread, and milk. On Dec. 14th it was found possible to discontinue all hypnotics. On this date, also, it was decided to close up the post-aural wound and to pack the cavity through the meatus. Chloroform and ether mixture was administered. The edges of the wound were pared, freshened, and united with interrupted sutures. An incision to relieve tension was made parallel and posterior to the original one. The cavity was packed through the meatus with iodoform gauze and the usual dressings were applied. From this time onwards the patient's progress was one of steady and uninterrupted improvement. The ear was dressed every day and on Dec. 17th he was up for a short period.

On Dec. 21st the patient was discharged from the hospital in a very satisfactory condition. There was still a little discharge from the post-aural wound and some through the meatus. He was sent back to Southsea under the care of his medical adviser, Mr. Blackwood, who has from time to time given information as to his continued and steady progress.

Remarks by Mr. MACLEOD YEARSLEY.—There are several points of interest in the above case. When first seen in September no indication of the condition in which the mastoid antrum must have been was given either by the symptoms complained of or by the signs observable. The fact that there were slight vertigo and headache was only elicited by questioning and these symptoms were unaccompanied by nystagmus. Perforations in Shrapnell's membrane that do not respond to careful treatment are, however, always to be regarded with grave suspicion, and the radical mastoid operation was recommended when on the second examination, about one month later, the condition was found to be unchanged. Even then the case did not appear urgent and consequently a month elapsed before the exigencies of a small special hospital allowed of his admission. A subsequent letter from Mr. Blackwood contained the information that for a week before admission the patient exhibited a peculiar irritability of temper and slight restlessness quite unlike his usual disposition. The small knuckle of brain seen at the first operation was noticed to be much congested and it is highly probable that the condition of encephalitis which subsequently gave so much anxiety was already begun. I had hoped that the careful packing up of the meatal flap would have barred the communication found between the antrum and the cranial cavity, but this failed.

Another point of interest was the entire absence of localising symptoms when the intracranial complication manifested itself. The most careful examination failed to discover any indication of the condition and retinoscopy revealed nothing. This was doubtless due to the fact that the hole in the tegmen antri and dura mater prevented any intracranial pressure, but it is interesting to note that at no time was there a "cerebral" pulse, Cheyne-Stokes respiration, tache cérébrale, or any other of the classical signs which might have been expected. Further operation was, however, an obvious necessity. Although the cerebral hernia then found was in a state of gangrene, the discharge had become quite sweet for the two days previous.

The subsequent history of the case is most instructive, especially as regards the large amount of nourishment taken and the enormous quantities of hypnotics that were required to keep the patient even moderately quiet. In the 24 hours between 10 A.M. on Nov. 26th and 10 A.M. on the 27th the patient took 72 ounces of milk and whey with ten ounces of beef-tea, whilst in several other periods of 24 hours the amount was not far short of this. On the night of Nov. 23rd he took six drachms of bromide of potassium in one-drachm doses and then required half a grain of morphine to induce quiet. On Dec. 3rd he received two and three-quarter grains of morphine in half and quarter-grain doses, whilst on Dec. 5th no less than ten drachms of paraldehyde with 30 grains of sulphonal had to be administered. Probably the extraordinary capacity for hypnotics was due, or partly due, to the encephalitis. In cases of cerebral complications accompanied by excitement it is always difficult to obtain sleep or to allay the delirium and restlessness, but I have never yet met with one in which such enormous doses of hypnotic drugs have produced so little effect.

In such cases as this recovery is largely due to assiduous nursing and I must pay tribute to the unremitting patience and care with which the house surgeon, Mr. Jones, and the special nurses in charge of the case performed their arduous duties.

Remarks by Mr. CHALDECOTT.—From an anæsthetic point of view this case afforded a valuable illustration of the usefulness of ethyl chloride for cases in which rapid induction of anæsthesia is essential. On several occasions it was necessary to dress the wound under an anæsthetic, the patient being at the time wildly maniacal; in the circumstances gas and ether were contra-indicated and owing to the patient's struggles it would have been a matter of some difficulty and danger to induce anæsthesia with chloroform. On each occasion, therefore, I commenced the administration with ethyl chloride, which acted with great rapidity, the patient's struggles ceasing after two or three inspirations, the ethyl chloride being then discontinued and chloroform substituted.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Value of a Serum (Doyen's) in Cases of Malignant Disease.

A MEETING of this society was held on March 27th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. A. PAINE and Dr. D. J. MORGAN communicated a paper on the Value of a Serum (Doyen's) in Cases of Malignant Disease, which will be found at page 955 of our present issue.

Mr. E. SETON PATTISON said that he had had two cases under his care which had been treated by Doyen's serum, in both of which improvement had taken place but the result had not been permanent. The first case was that of a man, aged 63 years, who had been a great smoker and had suffered from leucoplakia of the tongue for several years. In 1904 he developed extensive epithelioma of the tongue, both sides being involved. The breath was offensive, blood-stained mucus dribbled from the mouth, and the patient was emaciated. Pain was very severe and radiated in all three divisions of the fifth nerve. This patient was treated by Doyen's serum in Paris. After four injections the pain was much less and the general condition improved. After one month's treatment the patient had gained flesh, was able to take food well, and the pain had almost gone. About this time small brown sloughs came away from the growth, and in March, 1905, a large slough came away which caused bleeding from the lingual artery. As this could not be controlled both arteries had to be tied. The tongue became pinkish white in colour and the growth smaller. The improved condition was not long maintained, for the patient developed patches of growth on the gums and died in December. The second case was that of a woman who four years previously had had extirpation of the uterus for malignant disease. A tumour developed in the abdomen which on exploration was found to be malignant. The patient suffered greatly from constipation and from attacks of pain in the abdomen and vomiting. Injections of serum were now given and during two months the patient had 24 injections. She gained weight and improved greatly and her constipation was relieved after, as she said, "something had given way inside." She returned home greatly improved but died shortly afterwards. In another case of malignant disease of the breast, after injections of serum, the growth seemed to be retarded but the patient was not otherwise improved. In another case of recurrent cancer of the breast pain was relieved by the injections but the growth was not arrested.

Mr. CHARLES RYALL referred to the psychical effect produced by the serum and said that this was far greater in Paris, where the patients went to receive injections which were to cure the disease, than at the Cancer Hospital, where the patients knew that they were receiving injections of serum which were being tried experimentally. The symptoms produced by an over-dose of the serum appeared to be very similar to those produced by injections of Coley's fluid. He referred to the case of a malignant tumour of the breast which had been treated with serum and in which subsequently the growth was removed; this he considered a most suitable case for investigating the efficacy of the serum but it failed to produce a favourable result.

Mr. J. HOWELL EVANS said that periods of exacerbation and amelioration almost always occurred in the course of any malignant growth and if the injections of serum were administered during a period of amelioration the improvement would be attributed to the serum. It was most important to bear this in mind when considering the case. Pain again varied considerably and the effect of emotion was often very marked. A word of encouragement would frequently improve the physical condition of a patient in a very striking manner.

Mr R. H. J SWAN referred to the case mentioned by Dr. Paine of recurrent nodules at the back of the neck. He had examined the growth before and after treatment by the serum and the appearance was exactly the same in each case. He would have thought that if the serum produced any effect the appearance of the growth would show some change after the injection. With regard to the case mentioned by Mr. Pattison, in which the lingual artery was tied, he su gested that the improvement was due to the cutting off the blood-supply, and in support of this view he mention the case of a girl in whom a fungating mass in the mou became so much less after ligature of the lingual arte that she was able to swallow solids easily and witho pain, whereas formerly she had only been able to take liqui

Mr. PATTISON pointed out that the improvement in h case had taken place before the arteries were tied.

Dr. PAINE replied.

PATHOLOGICAL SOCIETY OF LONDON.

Pathology of Streptothrix Infection.—Some Experiments Reference to Immunity against Bacillus Pestis—Ther peutic Inoculation in Mediterranean Fever.

A MEETING of this society was held on April 3rd, Profess A. E. WRIGHT, Vice-President, being in the chair.

Mr. A. G. R. FOULERTON read a paper on the Patholo of Streptothrix Infections. At a laboratory meeting of t society held in 1905 he had made a preliminary communic tion[1] on 33 cases of streptothrix infection, and since th six more cases had been investigated. The 39 cases we classified, according to the seat of primary infection, follows: conjunctiva, one case; infection of the tissues the mouth, 21 cases; infection of the lung, seven case infection of the intestinal tract, nine cases, of which fi were cases of appendicitis and four were cases of right ili abscess probably connected with appendicitis; and there w one case of renal streptothrichosis, in which there was history of previous lung disease of some kind. Out of t 39 patients four belonged to the "unoccupied" class a the occupation, if any, was not known in seven case Of the remaining 28 a considerable proportion we from the nature of their occupation specially liable infection from grain and grasses, which had been shown be the natural habitat of several species of streptothriche Thus four were either coachmen or stablemen, two we bakers, two were gardeners, and there was one dairymai Then there was a group of six patients—one tailor, thr tailoresses, and two dressmakers—who would in the cour of their occupation be in the habit of passing cotton-t between their lips. In addition to these 15 patients the were others whose history suggested herbage as a possib source of infection. One patient had spent the sum months in the country and had been in the habit of chew ears of barley and oats; she developed appendicitis wit three months of the end of the holiday. Another patien young man, developed pulmonary streptothrichosis wit three months of a holiday of four or five weeks spent o farm. A third patient, a cellarman by occupation, lived mews. With regard to age distribution there was noth special to note except that there were only two childr under the age of 15 years amongst the 39 patients; five ca occurred in adults whose exact age was not ascertained, t cases occurred at ages between 15 and 25 years, ten at ag between 25 and 35 years, and the remaining 12 cases at ag 35 years and upwards. Details of the cases were then give In all the 39 cases the presence of a streptothrix parasite w proved by microscopic examination and attempts at obtaini cultures on artificial media were made in 30. In 13 cas all attempts at obtaining cultures failed. In four cases scanty growth was obtained in broth only and the precis species present could not be identified, and in the remainin 13 cases the parasite was obtained in pure culture on vario media, so that the species could be identified. Streptothri luteola, which Mr. Foulerton had previously described, wa isolated from the case of conjunctivitis and from an abscess connected with a carious tooth. Streptothrix hominis I., a slowly growing organism which on culture media somewhat resembled bacillus tuberculosis and had also been already described, was isolated from two cases of pulmonary streptothrichosis, from two abscesses in connexion with the jaw, from a case of primary infection of the tonsil with extension to the tissues of the front of the neck, and from an abscess in the substance of the cheek. Streptothrix hominis II., an organism somewhat resembling species I., but growing rather more freely and differing in its pathogenicity for lower animals, was isolated from the case of abscess of the tongue. Streptothrix hominis III. and IV. were two distinct species of free growth and of the same type as the common streptothrix of cattle: species IV. had been isolated from two cases of appendicitis and from one case of right iliac abscess and species III. was isolated from the case of renal streptothrichosis.

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[1] THE LANCET, May 6th, 1905, p. 1200.

Captain S. R DOUGLAS, I.M.S., described some experiments in reference to Immunity against Bacillus Pestis. He said that in view of the work of Professor Wright on antityphoid vaccination, in which he showed by means of blood tests that excessive doses of vaccine produced very prolonged "negative phases" and in many cases the output of antibodies in the cases where the excessive doses were employed was less than in those cases in which a smaller dose had been used, tests were made to ascertain if this was true for plague. Doses of 0·1 cubic centimetre, 0·2 cubic centimetre, 0·5 cubic centimetre, 1 cubic centimetre, and 3 cubic centimetres of plague vaccine made from an eight weeks old broth culture killed at 65° C. to which 0·5 per cent carbolic acid had been added were given to a series of rats. The best results were obtained with doses from 0·2 cubic centimetre to 1 cubic centimetre. It had been thought that the immunising substance of plague vaccine was contained in the sediment of the vaccine and that the clear supernatant fluid was practically inert. He examined three vaccines; in the first two he showed that the immunising substances in the filtrate were in greater abundance than in the sediment, whilst in the third vaccine the filtrate was almost equal to the sediment. A large number of experiments were undertaken to ascertain if a virulent culture of plague was necessary to obtain an efficient vaccine and it was found that in the case of vaccines made from broth cultures and those made by emulsifying agar cultures in 0·85 per cent. salt solution an extremely efficient vaccine could be made from cultures so non-virulent that the growth from three agar tubes failed to kill a rat when inoculated subcutaneously. Captain Douglas then dealt with the standardisation of plague vaccine by means of the sediment. He showed that the sediment was made up of many variable constituents, and if the weight of the sediment was to be used as a method of standardisation every precaution should be taken to have everything, including the media culture, the temperature, and sterilisation, as parallel as possible. Further experiments were undertaken to ascertain if any information of the amount of immunising substances of the supernatant fluid could be obtained. This was done by estimating the different amounts of precipitate which were present in various vaccines when the supernatant fluid was mixed with an equal amount of highly immune horse's serum. The most suitable dose of plague vaccine for man, as shown by Professor Wright, could most easily be estimated by the examination of the blood of the immunised man after inoculation with a properly standardised vaccine. It was therefore necessary to ascertain if any antibodies against the plague bacillus could be measured accurately enough for this purpose and in consequence the opsonic power of three normal men was estimated for some days to find if this power could be measured with a fair amount of accuracy. After an interval of five days two of the individuals received a dose of one cubic centimetre of a vaccine made from a six weeks old broth culture. In both cases the symptoms following the inoculation were severe, lasting almost a week in his own case, in spite of the fact that the dose given was only one-fifth of that which is usually recommended. It was noticed, however, that the opsonic power of the blood showed no diminution, even on the first day, but rose steadily, reaching its maximum of three times the normal on the ninth day and then rapidly reaching the normal again on the twelfth day. A large number of estimations of this sort would have to be carried out to ascertain the dose

Staff Surgeon S. T. REID, R N., read a paper on Therapeutic Inoculations in Mediterranean Fever. He said that the opsonic power of the blood gave a means of accurately regulating the dose of the vaccine to be inoculated. He then described the technique for estimating the opsonic power of the blood for Malta fever. The dose given was from one-sixth to one-third of a cubic centimetre—about 600 000,000 micrococci Melitenses. In most cases the temperature was raised and this corresponded to the negative phase, but never lasted more than 48 hours. In nine cases a fall of temperature was the chief benefit of the inoculations. In four the decrease of temperature was accompanied by a relief of pain. The nutrition of the patient greatly improved; a setady gain in weight was recorded amounting in many cases to at least half a pound a day. In one case a patient gained nearly 30 pounds in a little over a month. He showed by charts the great benefits which resulted from inoculation and said that if the naval and military authorities could be induced to adopt this method of prevention of Malta fever it would lead to a saving of many lives and preserve the health of the troops in that Mediterranean island.

CLINICAL SOCIETY OF LONDON.

Treitz's Hernia complicating Gastro-enterostomy.—Right Duodenal Hernia in an Infant.—Enormous Cyst of the Common Bile-duct.—Cases of Gastro-jejunostomy.

A MEETING of this society was held on March 30th, Mr. H. H. CLUTTON, the President, being in the chair.

Mr. A. E. J. BARKER read an account of a case of Treitz's Hernia complicating Gastro-enterostomy in a patient aged 50 years. On opening the abdomen with a view to doing gastro-enterostomy for carcinoma of the stomach no small intestine was found within the peritoneal cavity. At first this was difficult to explain, but when it was seen that the colon was higher up than usual and that the anterior layer of its mesentery was bulged forward, the position of all the small intestine behind the latter and a Treitz's hernia was recognised. The relation of parts rendered it necessary to open the sac of the retroperitoneal hernia in order to examine the posterior aspect of the stomach with a view to retrocolic gastro-enterostomy. In the sac was all the small intestine. The stomach was too extensively infiltrated with cancer for the anastomosis. Mr. Barker commented on the difficulties which would be met with in such a case in completing a gastro-enterostomy. Fortunately these cases were comparatively rare.

Mr. E. P. PATON read an account of a case of Right Duodenal Hernia, in which the hernia was reduced but death followed in seven days, due apparently to gut re-entering the sac. The patient was an infant. aged three months. The illness started suddenly with symptoms similar to those of intussusception. A swelling could be felt in the abdomen Laparotomy revealed a considerable length of small intestine which appeared to be engaged under a peritoneal band. This gut was drawn out. No further investigation was possible owing to the general condition of the child. The patient was at once relieved by the operation but was taken suddenly worse on the seventh day and died. At the post-mortem examination a right duodenal hernia was found into which a considerable quantity of gut had returned, which, however, did not seem to be strangulated. There was no peritonitis. The paper was illustrated by photographs and also by the specimen which was now preserved in the Museum of the Royal College of Surgeons of England.—Mr. FREDERIC S. EVE related the case of a woman, aged 64 years, in which he had met with a duodenal hernia during the performance of a colotomy for chronic obstruction.

Mr. EVE read a paper on Large Cysts of the Common Bile-duct. A woman, aged 46 years, was admitted to hospital in November 1902, with an abdominal tumour and jaundice which had existed for three years The tumour extended from the right costal margin to the iliac crest and across the abdomen to the left of, and below, the umbilicus and was evidently elastic. It was thought to be a cyst of the pancreas. At the operation the cyst was opened and it was attached to the parietes. It contained seven and a half pints of clear fluid and pieces of grit, and chemical examination showed bile pigment and cholesterin. The fistula remained open and seven months later a communication was made between the cyst and the hepatic flexure of the colon (choledocho-enterostomy). The patient recovered from the operation but died two weeks later from progressive emaciation and exhaustion. At the necropsy the abdomen was found to be normal with the exception of the large cyst of the common bile duct, which was four and a half inches in diameter. The junction with the colon was firm. Within the cyst and just above the papilla was a papilloma which had acted as a ball valve. Commenting on recorded cases Mr. Eve did not think that the condition was extremely rare, for in only a cursory examination of records he had found 24 cases. As regards causation the cases fell into three groups: (1) those in which the obstruction was due to a vascular formation, to stenosis, or to obliteration; (2) obstruction due to calculus; and (3) obstruction by a growth. Only one case besides that recorded had been found. In the great majority of cases the cyst had been opened and drained, with the exception of those, including Mr. Eve's, with a fatal result which was mainly due in this case to progressive emaciation and weakness from persistent jaundice. Some cases had been treated by uniting the cyst with the duodenum, the jejunum, or the colon. Mr. Eve thought that this was a matter of choice and in the majority of cases the colon was indicated on account of the extensive adhesions and the alteration of relationship of parts.

Mr. F. C. WALLIS read notes of three cases of Gastro-jejunostomy. The first case was that of a female patient, aged 91 years, who made an excellent recovery, losing all the symptoms for which the operation was performed The patient died 12 months later from cerebral thrombosis. The other two cases were both instances in which chronic inflammatory thickening around an ulcer simulated a new growth both in appearance and to the touch. In both cases a posterior gastro-jejunostomy was done. In the one case when the abdomen was re-opened a month later to do a partial gastrectomy the "growth" had almost entirely disappeared and an ulcer on the posterior wall could be felt through the anterior. The patient had quite recovered and had gained weight. In the other case the supposed growth occupied the cardiac half of the stomach. The operation relieved the pain, which was the main symptom complained of, but the patient died on the fourth day from hæmorrhage. The necropsy showed a large ulcer situated on the posterior wall; a large vessel ran along the floor of the ulcer and in the middle of the vessel was an oval opening. Mr. Wallis remarked that the first case illustrated the fact that even very old people stood operations well when their tissues were young. The lessons which he learnt from the other two cases were: (1) that in the majority of cases when partial gastrectomy was under consideration a posterior gastro-jejunostomy should be first performed; and (2) that delays were dangerous in cases of gastric pain which did not readily yield to medical treatment. In such circumstances the abdomen should be opened and the stomach examined. A gastro jejunostomy could be done, and if there had been hæmatemesis to any marked degree the stomach should be opened through healthy tissue in the neighbourhood of the ulcer and the ulcer cut out, cauterised, or ligatured to prevent further hæmorrhage.—Dr. W. HALE WHITE emphasised the fact that old age should not in itself be a bar to even serious operations. He had seen Mr. Wallis's first patient and was much impressed by the relief that she had experienced. The second group of cases was extremely important and he wished to refer in this connexion to masses of inflammatory material arising from the gall passages and simulating new growth by causing pressure on the pylorus. He had seen such a case recently and was convinced of the presence of pus owing to the high leucocytosis present; he had great difficulty in inducing the surgeon to incise the mass which closely resembled cancer, but after evacuation of the pus the patient made a complete recovery.—Dr. F. DE HAVILLAND HALL related a case recently under his care in which great benefit was obtained by simple laparotomy alone.—Mr. W. G. SPENCER referred to the anomalous course often pursued by gastric cancer and warned surgeons against too soon assuming that the diagnosis of cancer was incorrect merely because great improvement followed operation.

LIVERPOOL MEDICAL INSTITUTION.

The Diminishing Birth-rate.—The Position of the Operative Treatment of Fibroid Tumours of the Uterus.—Tropical Abscess of the Liver.

A MEETING of this society was held on March 29th, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. HUGH R. JONES read a note on the Diminishing Birth-rate. Although artificial means of preventing conception were being more generally and systematically adopted it must be remembered that families had always been limited by prudential self-restraint—to an extent not generally realised. The influence of the later age at marriage and the lower marriage-rate and of the employment of women in intellectual and industrial occupations was being underestimated. The death-rate had also fallen and this fall began before the fall in the birth-rate. The former was due in part to the high birth-rate in former years but it also indicated an improvement in the social condition of the population. Improvement in the social status always attended by a fall in the birth rate. The nat increment of the population was still high. The low de rate was masked and compensated for by the low birth-r It was to be regretted that except in 1904 and 1905 the of infantile mortality had been persistently high. He h that the present low birth-rate was only a temporary p in the history of English civilisation, for a high birth- and a robust young population were necessary to cont the past policy of England. The growth of the popula of a country depended on the sustained systematic polic the mass of the people, which was guided by the ac and teaching of the educated classes, and upon them the responsibility.—Mr. COLIN CAMPBELL remarked THE LANCET had recently directed attention to adver ments of "preventatives" in journals such as *Myra's*. had exhibited some years ago samples of preventatives to a midwife to retail to her patients.—Dr. W. MAC Mr. H. H. MOFFAT, and Dr. G. O. WALKER also spoke.

Dr. T. B. GRIMSDALE read a short note on the Opera Treatment of Fibroid Tumours of the Uterus and pointed the wonderful improvements that had been made in a minal hysterectomy of late years and contrasted the mort at present with that of ten years ago. He also showed the mortality from operation was now less than that of disease.—Dr. H. BRIGGS thought the present safety abdominal hysterectomy in the treatment of fibroids a early stage was an encouragement to the gynæcologist the operation could be often declined to the pati advantage.

Mr. G. P. NEWBOLT read a paper on Tropical Absce the Liver, based on cases seen in the tropical wards of Royal Southern Hospital, Liverpool. In all his cases t was a history of dysentery. Amœbæ were found in sloughs from the abscess wall in several instances but once in the motions. The tendency was for the absce point posteriorly through the chest wall. In two pati the abscess opened into the lung and the pus expectorated but it was necessary to drain the abscess f by resecting rib; both cases recovered The mat expectorated was brownish in colour and conta broken-down liver cells. One of these patients three abscesses opened and drained during a period four years but made a perfect recovery. In ano two abscesses were opened during life but a third between them and was not discovered. Mr. Newbolt stress on the importance of exploring with a long need large calibre, and also drew attention to the fact that a with a liver abscess might go about with a normal t perature and without much discomfort, but the pulse usually quickened. He considered it most important the dysentery should be cured before the patient was charged as this disease, although often made light of, at time might cause fresh infection. In one case the dysent pain was so acute that exploratory laparotomy was formed; nothing abnormal was found in the liver and patient was cured by syphoning the large intestine wi solution of nitrate of silver (20 grains to the pint). In cases which recovered the pulse-rate declined directly a the abscess was opened; if the pulse-rate kept up it probable that there were other abscesses present or dysentery was very severe. Experiments in the post-mor room showed that the healthy liver would not hold stitc but after opening the abscess through the abdom wall, in most cases, the liver being inflamed, the stit held, though in one case packing was used for a week p to incision. In operating through the chest wall the abs was emptied with the aspirator and its wall was pulled and fixed to the edges of the superficial wound. Large ru tubes were used for drainage and in some instances abscess cavity was scraped with a blunt lithotomy scoop irrigated. In order to show how rapidly the cavities c up Mr. Newbolt said that eight days after the removal 50 ounces of pus the cavity would only hold four ounce lotion. In one case the liver abscess was tympanitic ow to the escape of gas from the adjoining colon.—Mr. K. MONSARRAT spoke of the difficulties of evacuation satisfactory drainage in cases where the abscess bul directly downwards from the under surface of the right l at considerable depth from the anterior abdominal wall. considered that an incision below the twelfth rib in loin was the only route for satisfactory drainage in s circumstances. He mentioned the case of a woman who h always lived in Cheshire and on whom he had operated fo single abscess in the right lobe. There were no symptoms of any intestinal disorder; there was no fever; the pus was sterile bacteriologically but contained amœbæ in large numbers.—The following members also took part in the discussion: The President, Dr. T. R Glynn, Dr. W. Carter, Dr. Nathan Raw, Dr. R. J. M. Buchanan, Dr. C. J. Macalister, and Dr. J. Lloyd Roberts.

Sir James Barr exhibited a new Hæmomanometer.

Chelsea Clinical Society.—The annual clinical debate of this society was continued on March 20th, Dr. James Barry Ball, the President, being in the chair.—Dr. F. F. Caiger, continuing the discussion on Serum Therapy, said that it might fairly be stated that the antitoxin treatment of diphtheria stood on a well-established basis. In the hospitals of the Metropolitan Asylums Board during the last ten years between 60,000 and 70,000 cases of diphtheria had been treated, with the result that the mortality, which previously had never been below 30 per cent., had been reduced to less than 10 per cent. The actual figures for 1905 had not yet been published, but in relation to the South-West London Fever Hospital the mortality last year came out at only 8 per cent. It would be thus seen what an enormous benefit was shown in the treatment of diphtheria by antitoxin in the public hospitals of London and it was more particularly in connexion with two classes of cases that that benefit had been most found. In the first class of case, the laryngeal group, before the antitoxin days they did not have any better results than a recovery rate of 30 per cent. He believed that he was correct in saying that eight years previously to the introduction of antitoxin the recovery rate averaged 29 per cent. At the present time, owing to the universal application of that remedy, they were quite dissatisfied with a recovery rate of less than 70 per cent. The second group in which the benefit of the antitoxin treatment had been most strikingly shown was in connexion with post-scarlatinal attacks of diphtheria—in other words, patients convalescing from an attack of scarlet fever who had contracted diphtheria. Prior to antitoxin days post-scarlatinal diphtheria was justly regarded as the scourge of the scarlet fever wards and a large part of the mortality was directly due to it; the mortality taking all attacks with the laryngeal or faucial cases worked out at over 50 per cent. and in the laryngeal group it was 80 per cent. and sometimes even reached 90 per cent. What was the effect of the introduction of the antitoxin treatment on these cases? Simply that instead of 80 per cent. or 90 per cent the mortality was now reduced to less than 1 per cent, the reason being that these patients were already under medical care at the onset of the diphtheria and the disease was treated at the very earliest moment. Dr Caiger then proceeded to emphasise the extreme importance of early treatment. The clinical effects which followed the use of antitoxin were a rapid diminution of the faucial swelling and consequent distress, a diminution if not an entire cessation of the offensive discharge from the nose, a limitation of the membrane with its early separation, an improvement in the aspect and general well-being of the patients, and in those cases which died life was prolonged to an extent unknown with any other form of treatment. In his opinion very large doses of the antitoxin were unnecessary. Moderate doses repeated at the end of from 12 to 24 hours, according to the urgency of the case, continued until the membrane showed definite signs of separating, secured as much benefit as ensued with very large doses The dose should be determined by the urgency of the symptoms and by the time at which the patient came under treatment Dr. Caiger concluded by discussing the methods of administration of the antitoxin and described the attempts to treat scarlet fever by curative serum.—Dr. B. L Abrahams, after commenting on the mortality from diphtheria, discussed the serum treatment of typhoid fever In regard to the mortality from typhoid fever the great difference which had come about in the last few years was in his opinion due to the Widal test At the present time directly a case was suspected to be typhoid fever the Widal reaction was tried, with the result that there was an early recognition of the disease with the consequent early treatment of it. Concerning opsonin work Dr. Abrahams said that many of those keen on the treatment of tubercle by means of sera and bacterial products said that if a patient had a high opsonic index he would get better with tuberculin, but statistics showed that a patient with a high opsonic index would still get better without tuberculin, in other words, the opsonin test was excellent in diagnosis, but he was not inclined to think that it was going to be of very great service in treatment.—Dr. Allan Macfadyen said that the successful treatment of diphtheria by antitoxic serum had led to investigations in other directions with regard to the possible production of soluble poisons by other infective organisms. Among those attempts were included experiments in connexion with typhoid fever and cholera for the purpose of procuring the soluble poisons concerned, but the result had been disappointing, because the filtrates of typhoid cultures were only feebly toxic and it was found that, as a matter of fact, in the majority of cases of pathogenic organisms the toxins they had to deal with were not soluble toxins but intracellular toxins. It had to be acknowledged that as regards purely bacterial sera there was still doubt as to their actual practical value. Dr. Macfadyen concluded by saying that with regard to serum therapeutics bacteriologists must endeavour to produce some common factor on the antitoxin basis which would neutralise such toxins as those of the streptococci independently of any individual virulence of the strains which might be present, especially in regard to plague, typhoid fever, and cholera. In that way he thought the great future advances in serum therapy would be made. He was not pessimistic about the matter, for he felt that if research was pursued diligently they would come to some results which would be of value in treatment.

Royal Academy of Medicine in Ireland: Section of Pathology.—A meeting of this section was held on March 16th, Dr. Joseph F. O'Carroll, the President, being in the chair.—Dr. Alfred R Parsons exhibited Kidneys which had all the appearances of the congenital cystic form, only a small portion of the kidney substance being left intact. The patient, a man aged forty years, was in his usual good health until the day before his death. Suddenly becoming ill he was admitted to hospital where he died in 12 hours. Clinically he exhibited symptoms of gastro-intestinal irritation, with suppression of urine. The necropsy revealed nothing amiss except the kidneys shown. The brain was examined and was found normal.—Professor John A. Scott considered the condition as being of the nature of hypertrophic cirrhosis due to a pathological change that must have begun within the last ten years at least.—Professor A C. O'Sullivan showed an Aortic Aneurysm perforating the Pulmonary Artery and causing Perforation of the Pulmonary Valve. The patient from whom the specimen was taken was brought in a dying state to hospital. The necropsy showed an aneurysm of the aorta on the right side, half an inch above the attachments of the valves, and perforating the pericardium. It had also perforated the pulmonary artery above the valves and the valves themselves showed evidence of perforation.—Mr. E. H. Taylor exhibited a specimen of Epithelioma involving part of the Duodenum where the Bile-duct opens into the Intestine. The patient, who was a man, aged 40 years, had had several attacks of jaundice. When he came to hospital his liver was somewhat enlarged and his skin was slightly jaundiced. On opening the abdomen the gall-bladder was found to be distended and a great number of gall-stones were in the common bile duct A hard mass which was discovered in the duct where it opened into the duodenum was removed. On the ninth day the patient's temperature rose and he developed pneumonia, from which he died. At the necropsy a cancerous mass was found at the mouth of the duct. There was no obstruction to the flow of bile and the liver was enlarged and cirrhotic.—Mr. Taylor also showed a specimen of Cancer of the Ovary removed from a woman, aged 55 years. On examination it seemed like circumscribed peritonitis, and could be felt just above the pelvis The patient would soon be able to leave the hospital.—Dr. Wallace Beatty exhibited a boy, aged nearly four years, the subject of Urticaria Pigmentosa dating from a month after birth, and he showed microscopic sections of a nodule excised from inside the knee. He demonstrated the interesting fact that the granules of the mast cells, which were stained red by polychrome methylene blue in alcohol, were stained also by eosin if the skin was fixed in Zenker's fluid (i.e., Müller's fluid saturated with corrosive sublimate plus 5 per cent. glacial acetic acid) before final hardening with alcohol.—Dr. Walter G. Smith said that it was not improbable that the closer study of stains and dyes might throw some light upon the important problem of the nature of proteid substances. He pointed out that an efficient stain usually included, or was made up of, three constituents: (1) a nucleus, or chromophore, with a feeble acid or basic tendency and usually belonging to the aromatic series; (2) auxochromes, represented by NH_2 (basic group), or OH and oxygen (*acidic radicals*), attached to the chromophore; and (3) salt-forming groups, such as COOH (carboxyl), HSO_3, and NOH.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 28th, Dr. J. K. Kelly, the President, being in the chair.—Specimens were shown by Dr. Robert Jardine, Dr. John Lindsay, the President, and Dr. A. Louise McIlroy.—Dr. A. J. Wilson read notes on three cases of interest—namely, (1) Apoplexy (?) in a Young II-para; (2) Tumour of the Base of the Skull in a Newly born Infant; and (3) a case of Paternal Influence in Twin Pregnancy. In the first case the patient, while six months pregnant, became suddenly unconscious during the night; there was no history of previous ill-health. A convulsive attack was first observed followed by coma; dark coloured fluid was vomited and there was incontinence of urine. On examination neither œdema nor paralysis was present. Labour was induced and completed and the usual remedies for eclampsia were applied. The coma deepened on the second day, the left arm and leg became paralysed, the urine was suppressed, and death occurred on the fourth day. In the second case, that of a female child, at birth the nasal bones were distended and a cystic portion of a tumour projected from the right nostril. A soft mass covered with skin filled the mouth and projected forwards, pressing the tongue out of sight. The tumour was found to be growing from the naso-pharynx and was attached to the base of the skull. It filled the nasal cavity and passed through a large cleft in the palate by means of a pedicle and then expanded in the mouth into a bilobed mass of the size of an infant's fist. The tumour was removed by operation, the child dying on the ninth day. The microscopical sections prepared by Dr. Duff showed definite dermoid structures. In the third case Dr. Wilson read notes of a woman who gave birth to triplets, followed in 13 months by twins. On the husband's side twins occurred twice in his mother's family; the wives of five uncles each had twins. A short review of recorded cases was given.—Dr. James Weir read a paper on the Resuscitation of Apparently Stillborn Children. He thought that the subject was inadequately touched upon by most teachers of obstetrics and it was one having an influence on the subject of infant mortality. The influence of chloroform was slight unless operative treatment for the mother was prolonged. Dr. Weir in his obstetric practice used A.C.E. or C.E. mixture as being less injurious to the infant than chloroform alone. The method of Schultze was the best for artificial respiration, as in addition to the movements the child's skin came in contact with the varying temperature of the air. Stimulation of the sphincter by inserting the finger into the rectum was often of great benefit in bringing about attempts at respiration. It was also a guide as to the amount of vitality present, a tight sphincter being of good omen.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 8th, Mr. W. H. Date being in the chair.—A discussion took place on Dr J. R. Thomas's paper on Physical Deterioration. In this paper Dr. Thomas had specified 13 causes which in his opinion tended to impair the health of the nation, some of them being the increase in urbanisation, alcoholism, unsuitable food, parental ignorance and neglect of children, juvenile smoking, syphilis, and inattention to the state of the teeth.—The discussion was introduced by Dr. Thomas himself, who said that he wished to obtain help from the society as to whether it was desirable to form a local branch of the Society for Physical Education and Improvement. He then recapitulated some of his points, adding that infant mortality had not diminished in any part of the country. At Huddersfield great improvement had, however, taken place owing to the mayor of that city having offered a reward of £1 to any mother who brought up her baby for inspection at the end of its first year. As to remedial measures, ladies' health societies were useful. It was undesirable that any child under five years should attend school. Helpful girls might be allowed to assist their mothers during the day and attend school at night. The free feeding of children at school was advisable if they were insufficiently fed at home. The State ought to take measures to insure that no children went to school starving.—Mr. R. Coombe then proposed a motion to the effect that this meeting of the Devon and Exeter Medico-Chirurgical Society was in favour of the formation in Exeter of a local branch of the National Society for Physical Education and Improvement. He drew attention to the report of three Members of Parliament as a result of their inspection of municipal arrangements in Berlin. They came to the conclusion that a despotic government directed the populace on better lines than were followed in free England. More direction was required in England and the medical profession should put itself in the forefront.—Dr. P. M. Deas, who seconded the motion, said that he was inclined to consider that the objects of the National Society were too comprehensive. The attention which was now given to the general principles of hygiene led to a survival of the unfit and tended to keep degenerates alive. The true remedy consisted in education as to the production of children and the avoidance of early and improvident marriages.—Other speakers took part in the discussion and the motion on being put to the meeting was carried.

THERAPEUTICAL SOCIETY.—A meeting of this society was held on March 27th, Sir Lauder Brunton, the President, being in the chair.—Dr. J. Gordon Sharp (Leeds) read a paper on Native and other Plants having some Relationship to Curare, including (1) anchusa officinalis, alkanet, an imported plant containing an alkaloid; (2) echium vulgare, viper's bugloss, an indigenous plant containing an alkaloid; and (3) cynoglossum officinale, houndstongue, a common plant containing two alkaloids. All belonged to the Boraginaceæ. Anchusa rendered a frog's skin moist and hyperæsthetic at first but afterwards insusceptible to stimulation, while the stimulus to the sciatic nerves or the muscles themselves caused contraction. The heart stopped in diastole and atropine only produced a few contractions of the left auricle. Echium caused the same symptoms with more hyperæsthesia and greater weakness of the muscles. After a large dose no stimulation of the sciatic nerve caused any contraction, though the muscles reacted to direct stimulation. The heart stopped in diastole. Cynoglossum rendered the skin moist and very hyperæsthetic; stimulation to either the sciatic nerves or the muscles directly only affected the unpoisoned side. It often acted somewhat like curare but frequently death occurred suddenly with the heart in diastole. Among foreign plants the delphinium bicolor and occidentale from North America and the delphinium scopulorum from Mexico resembled somewhat curare. Their extracts were bitter with a slight smell and turned red with sulphuric or nitric acids, though delpho-curarine, their alkaloid, gave no colour with either acid. The extract of delphinium bicolor acted like curare at first, it increased the action of the skin, but in two hours the muscles of the poisoned side only contracted on direct stimulation, though on the unpoisoned side they were acted on by stimulating the sciatic nerve. Delphinium occidentale at first acted like aconite, increasing all secretions, but later the muscles became insensible to any stimulation, either direct or through the nerves. Delphinium scopulorum differed from the others inasmuch as the nerve centres of the cord were greatly depressed, more than the nerve trunks or the motor ends. Delphinium staphisagria or stavesacre first stimulated the secreting organs and the nerve centres, then depressed, and at last paralysed the nerve centres, the motor nerves, the muscles, and finally the nerve centres of the heart.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 17th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. John M. Cowan read a paper on the Results of the Infectious Diseases on the Vessels. He said that arterial disease might be produced by bacterial causes acting acutely and for a short period. Those acute lesions might be of little importance *per se*, but as places of diminished resistance they might allow the more slowly acting chronic causes to take effect. He showed microscopic sections illustrating the effect of syphilis on the arteries: endarteritis obliterans in the smaller vessels; in the larger the lesion was focal; the intima was thickened and degenerated; the media was slightly atrophied; in the adventitia the vasa vasorum were affected by endarteritis obliterans and around the vessels were little collections of mononuclear cells. The nutrition of the media and intima was thus interfered with. Other specimens showed patches of necrosis in the media—one with calcareous granules and in another the necrotic area was invaded by granulation tissue. Dr. Cowan then showed that the same type of lesion was found in other diseases, such as acute rheumatism and tuberculosis. In enteric fever Thayer found fresh atheroma in 21 out of 52 necropsies. Bacteria had been found in a few such patches and the infection apparently had been directly by the blood stream and not vasal. Small aggregations of mononuclear cells around small arteries were found in the organs in many diseases. These, in some cases, might cause distinct increase of the peripheral resistance and a rise of blood pressure. An irregular arrangement of the elastic fibres of the middle coat of the aorta was another change found in diseases such as pneumonia, pulmonary tuberculosis, acute peritonitis, and enteric fever.—The President read a paper on Certain Clinical Aspects of Arterial Disease. He said that clinically there were two varieties of high arterial tension: (1) temporary and recurrent; and (2) continuous. The first was brought on by excess in diet, by constipation, or by nervous excitement, and could be relieved by the judicious use of aperients and the nitrites. The latter form was associated almost always with chronic renal disease. In both, the exciting cause was the presence of toxic agents in the blood.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on March 23rd, Mr. E. Ward being in the chair.—Among the cases shown were the following:—Dr. T. Wardrop Griffith: A case of Atypical Leucocythæmia in a boy, aged 13 years.—Mr. W. H. Brown: A case of Traumatic Asphyxia.—Dr. Bedford Pierce: A case of Korsakow's Disease in which there were a 17 years' history of intemperance and evidence of affection of the lateral columns, with marked amnesia and failure of orientation.—Mr. H. Littlewood: A case of Rheumatoid Arthritis of the Knee, in which arthrectomy was performed with benefit.—Dr. A. G. Barrs: A case of Hodgkin's Disease with high lymphocyte count and slight dyspnœa as the only symptom.—Dr. A. Sharp: A case of Pachydermia of the Vocal Cords.—Mr. G. P. Anning and Dr. E. F. Trevelyan: A case of isolated Paralysis of the Extensor Communis Digitorum in a man with a history of lead poisoning.—Dr. T. Churton: Several cases of Metapneumonic Empyema.—Mr. H. Secker Walker: A case of Persistent Hyaloid Artery in both Eyes.—Mr. Michael A. Teale: A case of Monocular Vertical Nystagmus.—Mr. R. Lawford Knaggs: A case of Gangrene of Fingers following injection of spirit of camphor given four inches above the wrist; almost immediately the thumb and three outer fingers became cyanotic and subsequently gangrenous.—Dr. W. H. Maxwell Telling: Extensive Scarring in a case of Generalised Vaccinia.—Dr. Dobson and Dr. Telling: Two cases of Probable Gummatous Ulceration of the Tongue in Children.—Cases were also shown by Dr. J. Gordon Sharp and Dr. A. L. Whitehead.

Reviews and Notices of Books

A System of Medicine. By Many Writers. Second edition. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D. Cantab., F.R.C.P. Lond., LL.D., D.Sc., F.R.S., F.L.S., F.S.A.; and HUMPHRY DAVY ROLLESTON, M.A., M.D. Cantab., F.R.C.P. Lond. Vol. I. London: Macmillan and Co., Limited. 1905. *Pp.* xvi.-1210. Price 25s. net.

IN the ten years which have elapsed since the publication of the first volume of Professor Clifford Allbutt's well-known "System of Medicine" naturally considerable advances have been made in reference to most of the subjects dealt with in it and therefore the appearance of a second edition will be welcomed by the large body of workers to whom it has served as an exhaustive work of reference and an authoritative presentation of the position of medical knowledge. From the preface we gather that it is intended to revise and to republish one volume each year and thus gradually to replace the original edition by the new. In the preparation of this present edition Professor Allbutt has the assistance of Dr. H. D. Rolleston whose name now appears on the title page. We may felicitate Professor Allbutt on his choice of a co-editor, for Dr. Rolleston's wide pathological and clinical experience, as well as his literary attainments, render him peculiarly fitted for the task. The success which it has achieved and its unrivalled excellence as a work of reference are a credit alike to Professor Allbutt and his co-workers. Moreover, for conciseness and yet fulness, for convenience of reference, and for comprehensiveness it challenges comparison with most, if not all, of the large works of reference by foreign authors. It has supplied a need, and the appearance of this new edition is timely, for the striking advances of the past decade needed collating and codifying for purposes of reference.

Considerable alterations have been made in the arrangement of the subjects dealt with in this volume, several new articles have been added, others have been transferred to later volumes, and yet others have been modified or extended, with the result that it is larger than its predecessor by over 200 pages. Within the limits of the space at our disposal it is impossible adequately to review this really great work, or even to enumerate the articles or rather monographs which it contains: we must therefore confine ourselves to noting the changes which have been made in it. The introduction by Professor Allbutt with which the first edition commenced has been omitted, which we are tempted to regret (though, no doubt, it has been sacrificed to the exigencies of space) for it was a scholarly, thoughtful, and suggestive examination of the general principles upon which the science and practice of medicine are, or rather should be, based. Its place is, however, taken by an article on the History of Medicine divided into two parts, the first of which deals with medicine in ancient times and is contributed by Professor Allbutt himself in his usual refined, graceful, and instructive style. The second section, by Dr. J. F. Payne, devoted to medicine in modern Europe, is, as might be expected from so eminent an authority, a most able and comprehensive, though necessarily brief, summary of the gradual evolution of the present methods from the darkness, superstition, and ignorance of the Dark Ages. We read with great interest Dr. Payne's account of Sydenham, the "English Hippocrates" as he has been called, and of the originality and genius of his methods. This joint article is a valuable addition to the work and we are glad that Professor Allbutt has modified his view expressed in the preface to the former edition that the story of medicine has been but a melancholy study. This article forms the first in the prolegomena and is followed by one on Medical Statistics by Dr. J. F. W. Tatham in place of that contributed to the first edition by Dr. J. S. Billings. Dr. Tatham's article is thoughtful, lucid, and suggestive, and is illustrated by frequent reference to the mortality tables for various diseases. The influence of occupation on the mortality of certain diseases is also studied.

Dr. F. G. Clemow contributes an article on Medical Geography which replaces that on the Medical Geography of Great Britain by the late Mr. A. Haviland. This subject is one of comparatively recent growth and, as Dr. Clemow points out, it needs to be supplemented by a study of medical history, especially in regard to diseases of an epidemic character. He justly draws attention to the fact that Great Britain has been the pioneer in the study of this important subject and that to British observers are due some of the most striking advances in this department of knowledge.

A new article has been introduced on the subject of old age and is in two parts. The first is by Dr. F. Parkes Weber on the physiology and pathology of old age, in which the chief retrograde changes and histological and other alterations incidental to advancing years are portrayed as they affect the various systems and organs. The second part, by Sir Hermann Weber, deals with the prevention of premature old age and the prolongation of life to its natural term. It is chiefly devoted to the recommendation of simple hygienic and dietetic rules. Sir Hermann Weber's remarks that "the habit of sleeping much—viz., over eight hours—is often more injurious and shortens life more frequently than sleeping only five hours, since it causes diminution of the activity and elasticity of the arterioles of the brain and in consequence a tendency to thrombosis or hæmorrhage or early degeneration of the mental faculties," seem to us an *ex cathedrâ* statement which it would be difficult to justify scientifically.

The article on Dietetics has been considerably altered and a section dealing with the physiological principles of dietetics by Dr. R. Hutchison has been added to it. This constitutes a concise and clear statement of the relative value of foods with the modifications in diet necessitated by various conditions and includes an account of the characters of the principal foodstuffs. In referring to Professor Chittenden's interesting researches on physiological economy in nutrition, Dr. Hutchison expresses the view that further experience is needed before it is proved that his results are true for an indefinite period of time, but that if this proves to be the case the conclusion that the usual dietary standards are too high will be inevitable.

The section on the Feeding of the Sick is contributed, as in the last edition, by Sir Dyce Duckworth. Various modified diets are discussed, including the so-called zomotherapy or raw meat diet, and the indications for them are given. The article on the Principles of Drug Therapeutics, written by the late Dr. D. J. Leech, has been revised by Sir Lauder Brunton and is a very thoughtful and suggestive presentation of the principles of rational therapeutics and the application of pharmacological experience to the treatment of disease.

An addition to the present volume is the important and useful article on Physical Exercises by Mr. E. M. Corner, which is divided into three sections, the first of which deals with the physiology of exercise and is a forcibly-worded plea for a wider application of muscular exercises, especially those of the respiratory system, in our educational system. Mr. Corner says: "In early life our minds are carefully instructed and trained by highly educated men, but our bodies are allowed to develop according to the inclinations of their owners. Exercise is encouraged by all authorities but the use made of the opportunities supplied rests with the individual, who will utilise it or shirk it according to fancy." The second section deals with the actual exercises and systems of exercises which are in use, while the third is devoted to their application to various conditions of disease or deformity.

A further addition to the present volume is an article on the X Rays in Medicine by Dr. Francis H. Williams. It deals with the methods employed and their application in the diagnosis and treatment of disease. The uses of this form of examination in the diagnosis of diseases of the chest are carefully described and clearly illustrated, while the article as a whole is a valuable summary of the present state of our knowledge of the subject.

The article on the General Pathology of New Growths, by Dr. F. W. Andrewes, replaces that on the same subject by Mr. S. G. Shattock and Mr. C. A. Ballance in the former edition. It constitutes a very comprehensive and masterly survey of a most difficult subject and is a most valuable monograph. The cytology of malignant growths and the various theories and explanations of tumour formation are intelligibly presented and critically considered. Dr. Andrewes's article is a noteworthy addition to the literature of the subject. A further addition to the prolegomena is an article on the Clinical Examination of the Blood and its Significance, by Dr. J. H. Drysdale. The various methods for the examination of the blood are carefully described and their indications considered. The article is well illustrated and the varieties of the corpuscles, both red and white, are excellently portrayed on a double-page coloured plate. The directions for preparing the stains employed in the preparation of blood films are clear and practical and the method of using them is given in each case.

The article on Fever by the late Sir J. Burdon Sanderson has been extended by the addition of a section on physiological considerations in regard to fever by Dr. M. S. Pembrey and another on clinical considerations and treatment by Dr. W. Hale White, both of which afford a large amount of valuable information.

The second division of this volume, that devoted to the infections, has also been made the subject of some changes. The article on the General Pathology of Infections has been omitted and will appear in an extended form in the second volume. The articles on Puerperal Septic Disease and on Furuncles and Carbuncles have also been left out, while those on Cholera and Plague will appear in a later volume under Tropical Diseases. The article on Aerotherapeutics has also been transferred from this volume to a later one.

In regard to the remaining articles we have found that they have been brought up to date and are most useful for reference. One which may be specially mentioned is the excellent article on Inflammation by Professor J. G. Adami, which contains the record of a great deal of new work and is one of the most able expositions of the subject with which we are acquainted.

As a whole, the work is one of which the profession of medicine in this country may well be proud and one which, like its predecessor, will be of great value to the investigator and the practitioner who desires to keep himself informed of the advances in medical knowledge and to have the current state of that knowledge conveniently summarised.

Untersuchungs- und Behandlungs-methoden der Kehlkopfkrankheiten. (*Methods of Exploration and Treatment of Diseases of the Larynx.*) By Dr. THEODOR HERYNG. Illustrated. Berlin: Julius Springer. 1905. Pp. 383. Price 12 marks.

Dr. Heryng states in his preface that his object has been to set before the student of laryngology the treatment and technique of laryngeal affections in an exhaustive and yet simple manner, while he has also sought to lay before his fellow specialists those facts and methods which an experience of 32 years has shown to be of real practical value. It is interesting to note that after a trial of all forms of electric illumination in the examination of the larynx Dr. Heryng has returned to the use of the Welsbach incandescent mantle as being, on the whole, the most practical and the cheapest light and that which most clearly resembles good daylight. He gives some useful hints as to its management. He speaks approvingly of autoscopy first described by Kirstein as bringing directly into view the deeper parts of the throat, the larynx, and the trachea by means of a special tongue depressor, the neck being placed so as to bring the opening of the mouth and of the larynx into a direct line. Whilst admitting the advantages of autoscopy in many cases, however, Dr. Heryng agrees with Kirstein that it is an art which requires much practice, and he also admits that many patients complain of the process as being rather distressing. Amongst the very large number of chemical products available for local application Dr. Heryng recommends those only which he himself has found to be useful. He has had a considerable experience of various methods of inhalation and of spraying remedies into the upper air passages, trachea and bronchi, and hence can speak with some authority. The subject matter of the book is treated very fully without being prolix and the work can be recommended as affording a good and practical *résumé* on the matters of which it treats.

Essentials of the Practice of Medicine prepared especially for Students of Medicine. By WILLIAM R. WILLIAMS, A.M., M.D., formerly Instructor in Medicine and Lecturer in Hygiene, Cornell University Medical College; Tutor in Therapeutics, Columbia University, New York. London: Henry Kimpton. 1905. Pp. 460. Price 6s.

THE author of this work states that he aims at presenting no new facts but he wishes to emphasise the more common aspects of various diseases. He simply describes what he terms "the average case" of each particular malady because he apparently believes that this is the way in which to teach the student the practical part of his profession. We cannot agree with Dr. Williams in this respect. The "average case" ought certainly to be impressed upon the student's memory but he will require to know a great deal more than that if he wishes to succeed in his profession. It may be argued that a text-book of this character is simply to prepare a student for his examinations but to be worthy of its name a manual of medicine should have higher aims than this and should be an aid in preparing the future medical practitioner for the actual practice of his profession. Dr. Williams's book certainly cannot replace the larger standard works which a student will be better advised to use, although he may refresh his memory by a reference to its pages shortly before presenting himself for his examination. At the end of each section are arranged a few questions, so that the student can judge for himself whether he has thoroughly understood what he has been reading. He can also from time to time test his memory by referring to these questions and can study those subjects in which he finds his knowledge to be defective. The book is well printed on good paper and the frequent use of heavy type adds to the facility of reference.

LIBRARY TABLE.

The Principles of Bacteriology: a Practical Manual for Students and Physicians. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology and Director of the Laboratory of Hygiene, University of Pennsylvania. Seventh edition. Enlarged and thoroughly revised, with 100 illustrations, of which 24 are coloured. London: H. K. Lewis. 1906. Pp. 689. Price 12s. 6d. net.—The sixth edition of this work published in 1902 was reviewed at some length in our columns and its characteristic features were then pointed out. It is needless therefore to do more than to indicate the alterations or additions which have been made in this edition to bring the subject up to date. The alterations consist chiefly in the omission of certain organisms from the descriptive section and the inclusion of others which have become more important and in the use of a classification and nomenclature more in accordance with modern systematic bacteriology. The principal addition consists in the incorporation of the practical results of importance in preventive medicine. Examples of the first class of change are found in the incorporation of descriptions of the bacillus xerosis and the bacillus paratyphosus, while of additions with a practical bearing may be mentioned various methods of culture of the gonococcus, anti-plague serum and vaccine, anti-tubercle vaccination, standardisation of diphtheria antitoxin, and a more lengthy description of methods employed in the isolation of the bacillus typhosus. The chapter on Infection and Immunity formed an important section of the sixth edition and an attempt has been made in the seventh edition to present the subject with as great comprehensiveness as possible, so as to give some acquaintance with the many-sided relationships which this question has developed as the result of the large amount of work done during recent years. It is scarcely possible within the limits appropriate to a text-book to treat satisfactorily the immense subject of infection and immunity but in this work the student is given a very judicious and well balanced account of the present views on this question. It still remains true, as was said of the last edition, that though possibly more systematic treatises may be found it would be difficult to select a work more stimulating to the intelligent student or one by means of which he could better teach himself bacteriology than this by Professor Abbott.

Introduction to Chemical Analysis. By HUGH C. H. CANDY, B.A., B.Sc., F.I.C., Lecturer on Chemistry in the London Hospital Medical College. London: J. and A. Churchill. 1905. Pp. 114. Price 3s. 6d. net.—Though this book covers old and well-worn tracks the author's method of introducing the subject of chemical analysis to the reader is fresh, and in our opinion this method is the only way which will insure the foundations of the science being well and truly laid, for when a student is taught to observe for himself and to reason for himself the meaning of things the real solid work of education is begun and a sound knowledge of principles as well as of facts is gained. Mr. Candy says in the preface that he has for many years been more or less engaged in the education of students to whom the faculty of accurate and intelligent diagnosis is especially valuable. Exactly what is wanted nowadays is the instilling of this sense of diagnosis into the minds of all students and not the cramming of their brains with so many apparently disjointed facts. That is the aim of Mr. Candy's book in regard to chemical analysis, to explain, as he says, the principles upon which intelligent analysis is based and to make the process a mental rather than a manual one. The examinational system is, of course, calculated to defeat this rational method of teaching, but even when the passing of an examination is the end in view the methods involved can, and ought to be, conducted intelligently and on a reasonably broad basis. Students commencing a course of chemical analysis will find this book to be a real help.

The Laboratory Book of Dairy Analysis. By H. DROOP RICHMOND, F.I.C., Analyst to the Aylesbury Dairy Company, Limited. London: Charles Griffin. 1905. Pp. 90. Price 2s. 6d.—This little book is practically a synopsis of the methods employed for the analysis of milk and milk products which are described in the author's larger work on "Dairy Chemistry." It contains, that is, working directions for the estimation of fat, proteid, and sugar in milk and for the detection of adulterations. Methods are also given for the analysis of cream, condensed milk, butter, and cheese. Mr. Richmond writes with peculiar authority on these questions, having devoted years of work to the examination of milk. The processes recounted, therefore, may be taken to be trustworthy since they must be the outcome of considerable experience. The methods described are for the most part easily carried out but they may contain pitfalls for the operator who has not had the advantage of a skilled training.

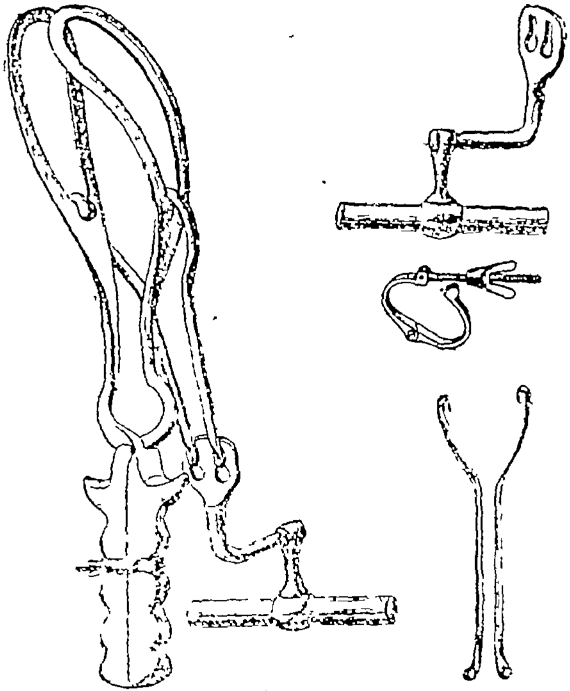
The Public Schools Year-Book, 1906. London: Swan Sonnenschein and Co. Pp. 675. Price 2s. 6d.—This is a useful directory of information concerning the public and preparatory schools of the country. The "public" schools included are the 60 large schools connected with the Head masters of Public Schools Conference, no less inclusive or more arbitrary selection being possible. Under each of these schools will be found complete information as to the educational curriculum, the scholarships and exhibitions, the boarding-houses, and the tuition fees, together with a list of the masters. Those private or preparatory schools, we take it, are inserted of which their proprietors have sent the necessary particulars, and here the book will be especially useful to parents who are much more able to get data from which to select the public school than from which to select the private school. We should like to see published in future editions the diet-sheets of the "public" schools and the names of the medical men who either as official medical officers or otherwise can be consulted upon all sanitary points n relation to each school.

The Cambridge Year-Book and Directory, 1906. London: Swan Sonnenschein and Co. Pp. 784. Price 5*s*.—This directory gives the Christian names and surnames, colleges, degrees, and present addresses of all those living graduates of the University concerning whom the editor has been able to obtain the necessary information. We have tested the book carefully and while we admit its obvious utility we doubt whether so high a percentage of correct identification has been obtained as is claimed in the preface, where the editor suggests that all but "something under 5 per cent." are traced. The directory, however, has obvious uses and the editor has a right to expect assistance from Cambridge men both in correcting slips in the names that he has obtained and in furnishing names that have so far escaped entry. Such outside assistance should immediately make the directory a valuable compilation.

New Inventions.

AN AXIS-TRACTION ATTACHMENT FOR ORDINARY OBSTETRIC FORCEPS.

THE accompanying illustrations show an axis-traction forceps made to my design by the Holborn Surgical Instrument Co., Limited, 26, Thavies Inn, London, E.C. It is an ordinary Barnes-Simpson pattern of forceps fitted with a removeable clamp and outside traction rods with handle, the latter having a universal joint. The method of attaching the tractors is simple and no alteration is required in any standard pattern of forceps. All extra parts are loose for cleaning and their total weight is about one and a quarter pounds. They can always be carried in the midwifery bag and provide a method of using the ordinary forceps for axis-traction without the necessity of possessing a special instrument.



FRED. W. JAMES, M.R.C.S. Eng.

Pitfield-street, N.

AN ADJUSTABLE GREAT COAT FOR WALKING OR DRIVING.

EVERYBODY who has ever worn a great-coat knows that although the opening in front may be closed when the wearer stands up when he sits down there is a gap. When the wearer is driving a horse-drawn vehicle or a motor car this offers every opportunity for draughts to play the legs and the lower part of the abdomen unless the v is protected by a rug, and this, in the case of driving a car, is very much in the way. We have recently inspec great-coat which seems to us to obviate the disa tages of the ordinary great-coat. By means of wh known as a box-pleat the skirt of the coat entirely cove knees and the feet when the wearer is sitting while affo perfect liberty to the legs. When standing up the looks just like an ordinary great-coat. The illust explains the construction of the coat better than any am of description. It is made by Messrs. John Robeson Co., 196, Aldersgate-street, London, E.C., and seems to be a praiseworthy invention.

Showing coat arranged for driving.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 5th, 1

SYPHILIS COMMUNICATED BY LEECHES.*

In a Journal entitled *Westphaelischer Anzeiger*, a phys relates a case in which leeches, used at first on a p affected with syphilis, and again employed on a child, municated the disease to it. It is, therefore, necessa know, when leeches are employed a second time, on w they have been previously applied.

THE "DIVINE" DOCTOR.

In one of the by-laws of the College of Physicians required, that the *purchasers* of degrees should spen least two years in an university, before they can be adm into the body corporate, hence JEMMY JOHNSTONE, and the other ABERDEEN DUBBS, were obliged to abscond to s seat of learning before they could become licentiates. M.D. of "divine" origin, Charles Mansfield Cla Accoucheur and Bat, never having entered the preci of an university, cannot be associated with the Dowa of Pall Mall East, without this law being "discharged."

TO CORRESPONDENTS.

The "Cock Sparrow" has not commenced an ac against THE LANCET; at any rate, he has sense eno not to do *that*.

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* Notizen a.d. Gebiete der Natur. und Heilkunde, tom. xviii. N p. 111.

THE LANCET.

LONDON: SATURDAY, APRIL 7, 1906.

The Workmen's Compensation Bill.

IN the House of Commons on March 26th the Home Secretary introduced a Bill "to consolidate and amend the law with respect to compensation to workmen for injuries suffered in the course of their employment." Mr. GLADSTONE'S proposals on the whole met with a favourable reception from both sides of the House and the Bill was read for the first time. Briefly, the new Bill seeks to extend the Workmen's Compensation Acts of 1897 and 1900 to every class of labour. The expression "workman," however, is to include every person not being a member of a police force, a clerk, a shop assistant, an outworker, a domestic servant, or a member of the employer's family dwelling in his house who has entered into, or works under, a contract of service or apprenticeship with an employer. Not only, therefore, are workmen employed in workshops to be brought under the operation of the Act but also those employed in the transport service, as well as fishermen, postmen, and seamen. Doubtless the promoters of the Bill have their reasons for excluding clerks, shop assistants, and domestic servants from the provision of the Act, but by what validity of reasoning these persons should not share the same advantages which the Act seeks to offer to "workmen" we fail to see. All three classes of labour—the clerk, the shop assistant, and the domestic servant—represent a very large and deserving section of the labouring community, and, moreover, their occupation, as experience has shown, is not unattended with risk. Further, it is difficult to understand why the Act should not apply in any case where the employer proves that the number of workmen employed by him at the time of accident did not exceed five unless the accident was attributable to the use by the employer of machinery driven by steam, water, or other power, or unless the workman at the time of the accident was employed in the care or management of horses or in mining, quarrying, or building operations, or in laying or repairing any electric line or work. We imagine that although the limit of five will not be made to apply to cases where machinery is used, there might be conceivably cases in which even the workmen engaged by the small employer are exposed to accident, although the nature of the work may not be such as to involve the use of dangerous machinery. The Bill, however, as Mr. GLADSTONE was careful to state, was not, and could not, be final, and when the Government had seen how it worked fresh proposals might be made to make up proved deficiencies, to extend its operations to other classes, and to get rid of limitations.

One of the most important extensions in the Act is the proposed application of its provisions to industrial diseases. The third schedule gives a list of these diseases as follows: anthrax (derived from wool combing or sorting and the handling of hides and skins), lead poisoning (arising from any process involving the use of lead compounds), mercury poisoning (originating from the use of mercury compounds), phosphorus poisoning, arsenic poisoning, and ankylostomiasis (mining). We have for several years insisted, at all events, in the case of lead poisoning in the potteries, that the manufacturers should be compelled to compensate their workmen who through no fault of their own are exposed to the poisonous action of raw lead compounds and who develop "plumbism." We suggested also that those potters who adopted leadless glazes or at least harmless lead compounds (the so-called "frits") should be exempt from the requirements of the Act. Industrial poisoning, it is obvious, cannot be placed on the same footing as an accident. The date of the latter can be fixed with certainty but it might be difficult to say when metallic poisoning was contracted, and it might even be possible for an operative to contract the disease under the roof of one employer and to develop it under that of another. Either employer, knowing these facts, would be ready to deny responsibility and it would not be easy to determine in every case on whom the penalty of compensation should fall. The onus of proof will be thrown on a medical referee appointed by the State, for Clause 11 states that the Secretary of State may appoint such legally qualified medical practitioners to be medical referees for the purposes of the Act as he may determine, and the remuneration of, and other expenses incurred by, medical referees shall, subject to regulations made by the Treasury, be paid out of moneys provided by Parliament. Remuneration is to come from the same source when a medical man is summoned to sit with the judge of a county court as a referee. On a workman giving notice of an accident he shall, if required by his employer, submit himself for examination by a duly qualified medical practitioner provided and paid by the employer. In the event of a disagreement arising between the employer and the workman as to the fitness for work of the latter the matter is to be taken to the State medical referee. If the workman refuses to submit himself for this purpose it is proposed to suspend his right to compensation until such examination has taken place.

One other point calls for comment and that is with regard to the payment of compensation. Under the existing law an application for compensation cannot be made until a fortnight has elapsed from the time of the accident. It is now proposed to reduce this interval by at least one week, so that deserving sufferers may not be deprived of the first week's payment of compensation. On the other hand, this step will greatly increase the cost of compensation, and there are a good many accidents which involve less than a fortnight's illness. Moreover, if by reducing the period which must elapse after an accident before compensation can be claimed fraud and malingering are encouraged, it is evident that no concession of shorter time ought to be given. In the House of Commons on Wednesday a discussion on the second reading of the Bill took place, when Mr. GLADSTONE stated that if the House desired the proposals of the Bill could be extended, while some scheme of compulsory insurance, he thought, would ultimately be necessary.

The Education of Crippled and Mentally Defective Children.

WE have received a copy of a report made to the Manchester education committee by Dr. HENRY ASHBY on the special schools for the mentally and physically defective children of that city. This annual report, the third of a series, though only of six pages is of considerable interest and contains valuable information of the methods adopted and the results obtained. There are three special day schools for mentally defective children, affording accommodation for 218 pupils. During the year 1905 263 children attended these schools and Dr. ASHBY is able to report that the school work has been conducted with great enthusiasm and interest by the teachers and that a marked improvement in attainments and conduct has taken place as regards the children. It is gratifying, also, to find that the parents are beginning to recognise the useful character of these schools and that there have been very few instances of their refusing to allow their children to attend or withdrawing them; indeed, in some instances the parents have voluntarily brought their children for examination and admission when they were conscious that there was some defect in the capacity for learning. Seven of the children were transferred from these day schools to the Sandlebridge boarding schools belonging to the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded, as being more suited for a residential school. Seven epileptics were transferred to the David Lewis Epileptic Colony owing to the severity or frequency of their fits. Seven cases were discharged as too feeble-minded to benefit much at a day school.

During the year 13 children who were 14 years of age were allowed to leave at the wish of their parents with the object of trying to obtain work; six of these were boys and seven were girls. Of these six boys three are working and doing well; one of them is earning 10*s.* a week, with good prospects, while the other two are earning 5*s.* or 6*s.* a week; the remaining three have failed as yet to secure permanent work. Of the seven girls four are working and doing well, two cannot be traced, and one has left the district. Of the four who are at work one is cap making, one is doing needlework, and two are engaged in housework at home. During the present year Dr. ASHBY anticipates that from 20 to 30 children will be leaving school and he is very anxious to trace their careers and their future prospects. He is of opinion that it is futile to admit to these schools the lower class of defectives or border-land imbeciles, since although the training and good example are beneficial yet they learn but little from school books and as their powers of retention are so feeble no permanent results are achieved. On the other hand, he regards it as probable that a certain proportion of those passing through the schools will be eventually able to earn their own living, especially if they are sent to the special schools when they are seven years of age and if simple handicraft trades such as basket-making, caning chairs, and mat- and toy-making are taught to them by practical teachers. Some of them, however, from lack of initiative and intelligence will degenerate after leaving and these are more fitted for colony life where the conditions of example and discipline similar to those of the schools are maintained.

In regard to the instruction of crippled or physically defective children prevented from attending the ordinary schools the Manchester education committee has set an excellent example to other educational authorities. During the year 1905 a residential school for crippled children was opened at Swinton House with accommodation for 30 children. A special and noteworthy feature of this school is that it works in conjunction with the children's hospitals and continues the treatment while providing some education. In the few months during which this school has been at work 34 children were admitted, all suffering from some chronic disease, paralysis, or deformity which was of such a degree as to prevent their attendance at a day school. For the most part, though of quite average mental powers, they were very backward and in some instances had received no school instruction whatever. Of these 34 children, 14 had spinal deformity, ten deformity from disease of the hip, five had severe deformities due to rickets, three were paralysed, and two had old disease of the knee. Six of them were temporarily transferred to the Children's Hospital for operation, the parents' consent having first been obtained. Many of the children were confined to bed, while others were enabled to get about on crutches. In nearly all cases they improved notably in health and made good progress in their school work. We understand that this school is the first of its kind in this country and the Manchester education committee is to be congratulated on its scheme for dealing with a difficult problem and on its wisdom in securing the coöperation of the medical man and the school teacher to lessen the disabilities inflicted on these children by heredity, disease, or misfortune. In the past many of these defectives, from lack of the special care now provided, instead of becoming useful and productive members of society as they are capable of doing, have been chargeable to their relatives or to the community for their support. The attempt to ameliorate their lot deserves the sympathy of all. Dr. ASHBY's report is a most suggestive and thoughtful pamphlet and deserves careful and attentive study by educational authorities elsewhere.

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Our Military Medical Service in Peace and War.

AN interesting and instructive debate took place in the House of Commons recently on the Army Estimates in connexion with the vote of £490,000 for the Army Medical Establishment and Service. Several Members took part in the debate, and it may be hoped that the feeling is becoming more general in Parliament that the condition of the Army Medical Service is an affair of national importance. The debate elicited a good speech from Mr. BURDETT-COUTTS and an important statement from the present Secretary of State for War. Like the far greater problem of how to guard against our unpreparedness for war generally and how to supply the regular army of the future with an adequate reserve—the need of which was perhaps the supreme

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THE MEDICAL REGISTER FOR 1906.

IN THE LANCET of March 31st we noted the appearance of the Medical Register and made various comments thereupon. Amongst other points we noted that we had checked the first 25 names in the Obituary List of the current Medical Directory and we said: "Of these 25 one is still on the Medical Register." We find that in this respect we have unwittingly done an injustice to those responsible for the accuracy of the official list of the profession which we are anxious to repair. Last year there were two practitioners, doubtless a father and son, bearing identical names. The father is now dead but the son's name remains on the Register and this identity of names led us into an error for which we desire to express our regret.

THE SECOND INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

ANYTHING which tends to bring nations together in friendly conference must receive the support of all those who wish that war could be no more, and the International Congresses on School Hygiene, though not directly organised with the object of establishing peace among the nations, must of necessity tend towards that desirable end, though their immediate purpose is to promote hygienic conditions in schools. On March 30th, in the Jehanghir Hall of the University of London, South Kensington, W., His Grace the Duke of Northumberland presided at a preliminary meeting to arrange the details of the Second International Congress on School Hygiene to be held in London from August 5th to 10th, 1907, under the presidency of Sir Lauder Brunton. It will be remembered that the first Congress was held in Nuremberg in Easter week, 1904, when a large number of representatives of continental societies interested in education attended. The French people, whose interest in school hygiene is very great, wished the second Congress to be held in Paris, but they have magnanimously given way to the wishes of England and, as Sir Lauder Brunton pointed out at the meeting on March 30th, have signified their determination to do all in their power to make the Congress in London a complete success. With the help of our neighbours across the Channel and the promised cordial coöperation of other countries there can be no doubt, as Sir Lauder Brunton said, that the forthcoming Congress will be one of the largest and most important ever held in London. The first motion, which was carried unanimously after being proposed by the Right Hon. Lord Reay and seconded by Canon Lyttelton, head-master of Eton College, stated:—

> That in view of the importance of school hygiene in developing a strong and vigorous race, the necessity for scientific methods being followed in the training of the young, and for hygienic surroundings being supplied in order to promote the health of the children during school life, this meeting, consisting of representatives of educational authorities, medical men, teachers, and others, is unanimously of opinion that it is desirable to hold the Second International Congress in London in August, 1907, to which representatives from India and the colonies should be invited, in addition to representatives from other countries.

Canon Lyttelton, in the course of his remarks, referred to the difficulties which head-masters of secondary schools had in dealing with hygiene in schools owing partly to lack of knowledge on the part of the public and partly to the need of an organisation to which the head-masters could appeal as an authority. On the motion of the chairman it was decided to ask His Majesty the King to extend his Royal patronage to the Congress. Knowing, as everyone does, the interest which His Majesty takes in all matters concerning the welfare of his subjects there is little doubt that he will graciously respond to the wishes of the meeting. An important motion was proposed by Sir Richard Martin, the treasurer of the Congress, namely:—

> That in view of the large expenditure involved in organising an international meeting of this character this meeting is of opinion that steps should at once be taken to obtain subscriptions and to open a Congress Fund, and that an appeal should be issued to all those interested to enable the committee to make the Congress not only a success, but worthy of the country whose hospitality the meeting will enjoy.

The estimated amount for expenses is £4000, comparatively a small sum to pay for the undoubted benefits which must result from the holding of the Congress, and we hope that a still larger sum than this may be subscribed in order that there may be a surplus with which to extend the good work. Among the other speakers who supported the movement were Sir John Cockburn, K.C.M.G., Sir William Broadbent, Sir Shirley F. Murphy, and Sir Edward Brabrook, chairman of the organising committee. The offices of the forthcoming Congress are at 72, Margaret-street, W. It may be mentioned that every person interested in promoting the hygiene of school life is eligible for membership upon furnishing the local committee with an exact statement of his or her name, position, title, and address, and paying the subscription of one guinea, or five dollars. A card of membership will be issued entitling the holder to attend all meetings, discussions, and entertainments, to receive the literature and proceedings, and to enjoy all other privileges of the Congress.

EPITHELIOMA DEVELOPING ON AN X RAY SCAR IN A CASE OF LUPUS VULGARIS.

IT is a curious fact that the x rays, though curative in some forms of epithelioma, may be the exciting cause of this disease. In the *British Journal of Dermatology* for March Dr. J. M. H. MacLeod emphasises the necessity of avoiding this danger in the treatment of lupus vulgaris by taking care not to bring about a severe reaction with the production of a telangiectatic scar. He relates the following case. A woman, aged 24 years, had suffered from lupus vulgaris of the face since childhood. She had been treated surgically several times and had subsequently undergone a prolonged course of treatment with the x rays. In June, 1902, she came under his care with a large cicatrix in the right lower half of the face and extending down to the root of the neck. This was evidently the result of severe x-ray dermatitis. It was smooth and pale in the centre but showed a close network of dilated capillaries towards the periphery. Around it was an areola of pigmentation. So far as the destruction of the lupus was concerned the treatment was fairly satisfactory but the disfigurement was great. There were, however, a few foci of active lupus outside the area of scar. These were treated with the Finsen-Reyn lamp. In October the improvement in these lesions was so marked that no definite disease could be detected. In January, 1904, several foci outside the area of scar became active and the Finsen treatment was repeated. At this time the x-ray scar remained sound. In the beginning of 1905 there was a small reddish-brown patch in the centre of the scar at the level where the collar of the dress rubbed against the neck. This patch was of about the size of a sixpence, slightly raised, indurated, and covered by scaly thickened epidermis which was almost verrucose. On pressing the blood out with a diascope there was evidence of underlying granulomatous infiltration. A few exposures is that the formation of an army medical reserve is imperative, and we believe that the country will not find the task of its creation difficult if the medical profession feels that it can rely upon an intelligent attitude on the part of the military authorities. But this attitude is absolutely necessary.

Annotations.

"Ne quid nimis."

THE METROPOLITAN ASYLUMS BOARD AND SANATORIUMS FOR CONSUMPTION.

IN a leading article in THE LANCET of Feb. 24th last, p. 534, we discussed a proposal made by Sir William Broadbent that the Metropolitan Asylums Board should "constitute itself" the "tuberculosis authority" for the metropolis and we pointed out that, desirable as certain aspects of the proposal might possibly prove from a purely humanitarian standpoint, there were obvious drawbacks to the scheme as a whole which rendered it administratively impracticable and inexpedient. It was suggested, in fact, that what would in effect have been a new sanitary authority should be created in the metropolis to deal with one disease alone, and this notwithstanding the fact that the borough councils, or rather their predecessors, were created largely for the purpose of controlling, except in so far as actual isolation is concerned, the infectious diseases occurring in their districts We are not, therefore, altogether surprised to find that the Local Government Board, to which the question of the provision of sanatoriums was referred by the Asylums Board, after having devoted much careful consideration to the subject, has replied that the information at present before it does not appear to afford sufficient justification for the very heavy outlay which would be involved in the proposal. The Board also inclosed with its reply a copy of a communication which Sir William Broadbent has addressed to Mr. Burns in which he practically withdraws the specific proposal which he had outlined and which, we gather, was made under some misapprehension of existing sanitary administration in the metropolis. Sir William Broadbent is now of opinion that the Metropolitan Asylums Board is too extensively associated with Poor-law administration to act as a tuberculosis authority for non-pauper cases and he was, he adds, misled by the fact that cases of infectious disease are sent to the hospitals of the Asylums Board whether or not such cases belong to the pauper classes and he was not, he states, aware that the Metropolitan Asylums Board, being elected by the guardians, is unable to exercise the coördinating authority which he had in view. As we have already expressed our views upon the subject we do not propose to discuss the matter at any length at the present moment. It is, however, clear to us that the expenditure involved would have ultimately become enormous, seeing that it would have led eventually to the general provision both of sanatoriums and of homes for advanced cases as well as to a material addition to the sanitary administration in the metropolis. We think, therefore, that the Board has done wisely in waiting for further information as to the many aspects of the problem before officially sanctioning an experiment with a population of some 5,000,000 people, more especially in face of the criticisms which are being made as to the influence of hospitals in reducing the prevalence of the more highly infectious diseases such as scarlet fever and diphtheria. If, as seems possible, the London public is in the mood to furnish substantial funds for the purpose of endeavouring to hasten the decline in the death-rate from tuberculosis it is desirable that the money should be spent on a well-organised scheme which will be likely to yield the best results.

EMBALMING AND POISONING.

IN his inaugural address before the American Medico-Legal Society on Jan. 17th the President, Dr. Clark Bell, LL.D., directed the attention of members to the legal prevention of the use of poisons in the embalming fluid by undertakers and others. The subject is of the highest importance, since it is well known that criminals have employed agents to inject arsenical and other poisonous solutions into the cavities of the cadaver with a view to prevent the detection of their crime. In some countries restriction has been made relative to the use of arsenic as an embalming medium and many years ago it was forbidden in France. As pointed out by Dr. Bell, there is no certain method by which "arsenic administered by the mouth or rectum which produced death can be detected or discriminated from the arsenic with which the abdominal cavity had been filled contained in the embalming fluid of the undertaker—which had been absorbed by the dead body by imbibition." We shall watch with interest the result of the deliberations of the committee of investigation proposed by the American Medico-Legal Society. The statement is doubtless correct that "it is now demonstrated that a perfectly sure, safe, and reliable embalming fluid can be made without the use of arsenic or any poison or ingredient dangerous to human life." As Dr. Bell observed, there is no reason to believe that the Egyptians relied on poisons in their best work or that they used poisons. It may not be out of place here to give a short historical sketch of the processes of embalming employed at different epochs. The preservation of dead bodies in ancient times was practised by the peoples of both the old and the new world, by the Persians and the Peruvians for example. The latter appeared to have relied on the preservative action of cold, dry, and rarefied air, for they placed the bodies of the Incas to desiccate on the mountains. The Egyptians alone of the ancients employed embalming as a ritual due to the dead. Even with them we can follow the development of the usage, for the sarcophagi of the earliest dynasties did not contain mummies, though skeletons found in some of them had a bituminous odour and were brown in colour, suggesting a primitive attempt at embalming. Herodotus describes three grades of embalming, varying in nature and procedure according to the tariff. In the first or highest class the brain was removed through an opening made in the skull by crushing the ethmoid bone. The organs of the abdomen and thorax after removal were washed with palm wine and treated with aromatics. The cavites of the abdomen and the thorax were filled with cassia, myrrh, and so on. The body was put in natrum—subcarbonate of sodium—for from about one to two months and finally it was swathed with bandages charged with gum. Like other arts, embalming was lost in the dark ages. It was at the commencement of the nineteenth century that chemicals were first employed by Chaussier who recommended that the surface of the body and the inner walls of the great cavities should be treated with a solution of corrosive sublimate. In 1834 Gannal brought to the notice of the Academy of Medicine of Paris his plan of injecting a solution of salt, saltpetre, and alum into the arteries, and so doing away with the necessity of removing the internal organs. Arsenic, zinc chloride, and mercuric chloride have been the minerals most commonly employed for the preservation of dead bodies. By freezing the cadaver can be kept free from putrefaction for an unlimited period without using substances that might by their chemical properties prevent or interfere with toxicological the right eye there was some atrophy of the optic nerve with but little change in the vessels. In the left eye there was some atrophy of the optic nerve with veiling of its upper and inner margin. The veins were extremely tortuous. Further examination showed that the right sixth nerve was completely paralysed. There was slight paralysis of the right seventh nerve; the forehead was not wrinkled as much or the angle of the mouth drawn up as well on the right side as on the left. The tongue deviated a little to the right and showed fibrillary tremor on both sides and atrophy on the right. The soft palate was slightly but distinctly weak on the right side. The left vocal cord was completely immobile and fixed in the middle line; the right was active but showed weakness in sustained tension. Smell and taste were normal. Thus there were on the right side paralysis or paresis of almost all the cranial nerves and on the left side partial paralysis of the third nerve. The diagnosis of thrombosis of the cavernous sinus best explained the ocular symptoms. Sir William Macewen has shown that in more than half the cases of thrombosis of the cavernous sinus the process extends to the other side by the circular sinus. He considers that this extension serves to differentiate between disease of the cavernous sinus and diseases within the orbit. In the case now reported the evidence of this extension was involvement of the motor nerves of the left eye. The paralysis of the ocular nerves was evidently due to the pressure exerted on them by a thrombus in the cavernous sinus. Extension of the thrombosis backwards into the superior and inferior petrosal sinuses would explain the other paralyses. The superior petrosal sinus on its way to join the lateral sinus crosses the fifth and seventh nerves. The inferior petrosal sinus as it crosses the anterior compartment of the jugular foramen separates the glosso-pharyngeal from the spinal accessory nerves. Perhaps the disturbance of the circulation caused by thrombosis of the inferior petrosal sinus affected the nuclei of the nerves. The increase of the ocular symptoms at the menstrual periods can be explained by the general disturbance of the circulation which is produced by menstruation.

THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, VENTNOR.

A FESTIVAL dinner in connexion with the above hospital was held in the Whitehall Rooms, Hôtel Métropole, London, on April 3rd. Field-Marshal the Right Hon Earl Roberts presided. A large number of ladies and gentlemen attended and amongst those present were the Lord Chief Justice of England (the Right Hon. Lord Alverstone) Count Metaxas, and the President of the Royal College of Physicians of London (Sir Richard Douglas Powell). The loyal toasts having been duly honoured, Earl Roberts proposed "Prosperity to the Hospital." He said that he remembered hospitals before the great and beneficent discovery of Lord Lister and he recollected the sufferings which the patients endured before the introduction of the antiseptic system. He then gave a brief account of the history of the hospital and the work that had been accomplished. Established in 1867, the hospital possessed accommodation for 150 patients. It comprised 11 blocks and each patient occupied a separate bedroom. Upwards of 22,000 in-patients had already received the benefits of the institution, many of whom had been enabled to resume their occupations after leaving the hospital. The institution being out of London derived no assistance from King Edward's Hospital Fund. A festival dinner in aid of the hospital had not been held for some years and he hoped the results that night would be as satisfactory as on the occasion ten years ago when Lord Alverstone was in the chair. The next toast was that of "The Board of Management and the Medical Staff," given by Sir Richard Douglas Powell, who said that the members of the board must have something of the Mark Tapley element about them with just a dash of Mr. Micawber, for they dealt with an institution having an income of £11,000 and an expenditure of £14,000, yet did not "wear a worried look." They managed their funds most carefully but always looked for a legacy or a big donation "to turn up." The institution of the aseptic method of treating pulmonary tuberculosis had proved most encouraging. Mr. P. B. Burgoyne (chairman of the board) and Dr. R. Robertson (physician to the hospital) replied. "The Health of the Chairman" was proposed by Lord Alverstone and Earl Roberts, in reply, made the welcome announcement that £2110 had been collected as the result of the dinner and that His Majesty the King had given £50 towards the funds of the hospital. Mr G. T. Powell (deputy chairman of the board) proposed the toast of "The Visitors, the Ladies, and the Artistes," and Mr. G. C. Milo, Mr. Alan Burgoyne, and Chevalier Wilhelm Ganz responded.

INTERNATIONAL MEDICAL ASSOCIATION FOR THE SUPPRESSION OF WAR.

THE International Medical Association for the Suppression of War was founded a year ago and the annual general meeting was held on March 21st at the headquarters of the association, 25, Rue des Mathurins, Paris. Dr. J. A. Rivière, the President, was in the chair and delivered an address. He said that the world was still to a great extent dominated by views identical with those held by the ancients, and although Mars, the god of war, was no longer an object of public worship yet the ideals associated with his name were firmly established in the minds of the people of all nations. What other explanation was there of the fact that women, whose hearts were full of tenderness and pity, had done nothing to bring about the abolition of war? He had no doubt as to the final triumph of reason and good sense. The breath of truth was as contagious as that of error. In conclusion, he said that international disputes brought before a duly constituted tribunal, the proceedings of which were open, were, in fact, adjudicated on by public opinion. A large number of medical men of many nationalities were present at the meeting and several motions were adopted in accordance with the views enunciated in the president's address.

THE ANTISEPTIC VALUE OF HETRALINE.

WE have received a copy of a dissertation for the degree of Doctor of Medicine by Dr. Ramon Fernandez de Caleya y del Amo, detailing some observations on the antiseptic value of hetraline and comparing it with that of urotropine in septic conditions of the urinary passages. The writer points out that since it has been demonstrated that in the majority of cases cystitis and pyelitis are caused by pathogenic organisms search has been made for antiseptics the action of which, whether by local application or by internal administration, would be sufficiently powerful to destroy the bacteria without damaging the tissues. He mentions urotropine as being the most satisfactory hitherto employed and then proceeds to give his experience of another preparation—hetraline. The chemical term for this substance is dioxybenzoylhexamethylenetetramine; it crystallises in needles which are soluble in cold water (1 in 14) and in alcohol but far more readily in hot water (1 in 4). It has a sweet, agreeable taste. The conclusion arrived at is that the preparation is a good urinary disinfectant, as powerful as urotropine and occasionally superior to it. Hetraline has the advantage of causing no irritation to the tissues, at any rate, in the doses used by the author of the dissertation. The minimum daily quantity is four doses of 0·5 gramme; smaller doses do not yield good results. The bacteria are not destroyed but microscopical examination showed that the organisms had become misshapen and stained badly with methylene blue.

to the rays reduced the granuloma but made no impression on the thickened epidermis. The patient then disappeared for several months. She returned in August with recurrence of the granuloma and the thickening of the epidermis more marked. Several exposures were given but as there was no marked benefit they were discontinued lest they should prove harmful by irritating the epidermis and boric ointment was applied. The patch steadily enlarged, its borders became more raised, and a superficial ulcer formed in the centre from which oozed a sero-sanguineous discharge. In October the patch had increased to the size of a shilling and the margins were so hard that free excision was performed. The wound was healed by the middle of December. Microscopic examination showed for about a quarter of an inch beyond the active growth the characters of a burn from the x rays. In the centre was a rapidly spreading squamous epithelioma with cell-nests. Surrounding the epitheliomatous processes was a dense cellular infiltration consisting chiefly of plasma cells and fibroblasts which was thought to be of tuberculous origin. The development of epithelioma in old lupus vulgaris, though well known, is rare. Its development on an x ray scar which has replaced lupus appears to be not infrequent. Mendes da Costa has recorded seven cases in 72 so treated. Such cases show the necessity of avoiding a severe reaction which is likely to occur in tuberculous tissue.

THE GERM-DESTROYING PROPERTIES OF TOBACCO SMOKE.

IT has often been confidently stated that tobacco smoke is a powerful germicide but so far this property has not been assigned to any one particular constituent of the smoke. The composition of tobacco smoke is, of course, complex but everybody knows that tarry oils are a principal constituent and certainly many oils are powerfully antiseptic. Nicotine, again, is a strong disinfectant but the quantity of this poison in tobacco smoke is minute, if, indeed, it is present at all. At least, in a number of chemical analyses of tobacco smoke made at different times it was difficult to declare with absolute certainty that nicotine was an important constituent. The oily matter which accumulates in a tobacco pipe is decidedly poisonous but it does not contain any appreciable quantity of nicotine, the chief constituent being the very poisonous oil pyridine. Tobacco smoke contains a decided quantity of the very poisonous gas carbon monoxide which has been used for preserving purposes and which therefore must possess germicidal properties. Some simple experiments which we have recently made would seem to confirm the observation that one of the principal constituents accounting for the germicidal properties of tobacco smoke is the powerful antiseptic formaldehyde. The amount present is more than just appreciable, for if water through which a few puffs of tobacco smoke have been passed is tested for formaldehyde the result is strikingly positive. The quantity of formaldehyde in tobacco smoke would appear to depend on the quality and kind of tobacco smoked. Thus the cigar appears to yield more formaldehyde than the pipe and the pipe more than the cigarette. Possibly the peculiarly irritating property of the smoke issuing from the glowing end of a cigarette or cigar or from the bowl of a pipe is due to formaldehyde. It has more than once been stated that tobacco smokers enjoy an immunity from certain diseases and the frequent presence of a powerful antiseptic in the mouth, nasal passages, and sometimes the lungs (as in the case of those who foolishly inhale tobacco smoke), would to some extent justify the statement. When it is considered that in the nose a vast number of microbes are hourly deposited it is conceivable that these may be effectively destroyed by the frequent passage of tobacco smoke through that organ. In the same way the organisms exposed to tobacco smoke in the mouth would succumb. Formaldehyde is one of the most powerful disinfectants we possess, 1 part in 10,000 parts of water serving to destroy all microbes, while such a dilute solution has practically no poisonous action on the human organism. All the same, it is most undesirable that this fact should stimulate the practice of smoking tobacco to absurd excess, for tobacco poisoning is a greater reality than many persons think, and to employ tobacco in abusive quantities for the sake of destroying microbes might amount possibly to killing the seeds of one disease only to contract another.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LISBON, 1906.

THE London, Brighton, and South Coast Railway Company gives notice that it is prepared to issue return tickets from London to Irun to members of the International Congress of Medicine and their wives and children. The tickets will be issued until April 19th at the Victoria and London Bridge stations of the London, Brighton, and South Coast Railway, the only formality necessary being the presentation of the *carte d'identité*. The tickets are available for 60 days *viâ* Dieppe, Paris, and Bordeaux. The return fares from London to Irun are £5 15s *5d.* first class and £4 1s. second class.

THROMBOSIS OF THE CAVERNOUS SINUS WITH PARALYSIS OF THE CRANIAL NERVES.

IN the *American Journal of the Medical Sciences* for February Dr. W. Zentmayer and Dr. T. H. Weisenburg have published the following remarkable case. A woman, aged 34 years, came under observation with the following history. In childhood she had fairly good health. Menstruation began at the age of 14 years and after two periods of scanty flow ceased for two years. After that it was regular. A short time before the beginning of menstruation the right eye became inflamed and there were some ptosis and proptosis. The inflammation subsided somewhat but at every succeeding period there was a sense of discomfort and fulness in the right eye and later also in the left. The proptosis and ptosis on the right side gradually increased and were most pronounced at the menstrual periods. The patient married at the age of 24 years. Four years later she noticed at the time of a menstrual period that the right eye was more painful and inflamed than ever before, that the proptosis and ptosis were more marked, and that these symptoms, instead of subsiding after the menstrual flow, became, if anything, more pronounced. Later it was found that these ocular symptoms were the first signs of pregnancy. As the pregnancy advanced all the ocular symptoms increased. Twins were born after a difficult labour. The proptosis and ptosis further increased, the latter becoming complete. At each menstrual period the ocular symptoms continued to augment. When the patient came under observation she complained much of headache. There was marked proptosis on the right side, but the globe could be partially replaced by firm pressure. The right third, fourth, and sixth nerves were completely paralysed. Ptosis was complete, but owing to the proptosis there remained a narrow palpebral fissure. The palpebral veins were congested. The pupil was four millimetres in diameter and did not respond to direct or consensual light stimulus. The lids, the conjunctiva, and the cornea were anæsthetic and there was a large corneal opacity. Vision equalled the counting of fingers at one-sixth of a metre. On the left side there were slight limitation of the inward movement of the eyeball and weak nystagmoid action of all the extra-ocular muscles. The pupil measured four millimetres and did not react to direct or consensual light stimulus. Vision equalled $\frac{5}{10}$. In suffering from diseases of the chest. Those patients who are unable to walk to the clinic will be visited by a physician and by a nurse if necessary. The above intentions are excellent and we wish the promoters of the scheme every success. Full details are not given, however, in the leaflet, but if we are correct in assuming that only one physician is to attend at the clinic for one hour daily but little good can result. The attendance of at least two physicians for three hours or longer daily would be required in *order to see the number* of patients likely to attend. Doubtless, however, the promoters desire to commence on a small scale, enlarging their labours as funds will permit. The supervision of the treatment in the patients' own homes by means of a large committee of competent persons is being extensively tried in France and elsewhere and most valuable results may be expected. We trust that good results will follow the proposed "clinic" in Philadelphia.

THE SIXTH INTERNATIONAL CONGRESS OF CRIMINAL ANTHROPOLOGY.

"WHAT is genius but organisation?" said Mr. G. H. Lewes. "What is crime but the product of vitiated organisation, congenital or acquired?" say Lombroso and his school. The positive affirmation implied in this latter question is the keynote (writes an Italian correspondent) of the new science of criminal anthropology which at intervals of three years holds its international congress, this time at Turin from April 28th to May 3rd. Sixth in the series, the Congress about to meet has set itself an unusually attractive agenda paper to be worked through by such well-known experts as Max Nordau, Richet, von Hamel, Tamburini, Morselli, and the "bon juge" Magnaud, under the presidency of the ex-Minister of Public Instruction Bianchi and with the intervention of Lombroso himself. Its "inauguration" will take place in the Aula Magna of the University and thereafter its sittings will be held in the Istituto di Anatomia Normale, spacious enough to accommodate the "congressisti" representing the leading nationalities or States of the two hemispheres. The first proceeding after the inaugural address will be the presentation of a testimonial to Cesare Lombroso, on the occasion of his "giubileo scientifico," which also coincides with his nomination as ordinary professor of criminal anthropology in the University of Turin. The testimonial will take the form of a "targa (shield) artistica e simbolica,' the work of Bistolfi, a gold medal also designed by the same artist, and an illuminated album containing the signatures of the most eminent votaries of the science of which Lombroso may be called the "hero and eponymus." This ceremony concluded, the Congress will proceed to business and at the close of each day there will be entertainments of one form or another organised by the Municipio, the Circolo degli Artisti, and the *Accademia di Medicina*, in addition to which Professor Lombroso will receive the "congressisti" at a "serata d'onore" and the "characteristic" Borgo Medioevale will offer the hospitality for which it is noted. Before dispersing the "congressisti" will be conducted on an "escursione artistica" through the Val d'Aosta by the historian of Roma Antiqua, Signor Guglielmo Ferrero, who will give apposite explanations of the celebrated antiquities of the locality. *Turin, indeed*, is making every effort to insure the success of the Congress—the first international meeting which she has held since the partial destruction by fire of her magnificent library—if only to show her gratitude for the assistance she received towards making good the losses she then sustained—assistance rendered cordially and effectively by sister seats of learning throughout Europe—conspicuous among these being the Universities of Oxford and Cambridge. *It may be added* that all the information required by intending participants in the Congress may be obtained on applying to the Secretary at the Istituto di Medicina Legale of the Università di Torino, No. 26, Via Michelangelo.

THE EXPERIMENTAL PROPHYLAXIS OF SYPHILIS.

SOME experiments recently described in the *Annales* of the Pasteur Institute are of interest in connexion with the annotation on the Prevention and Early Treatment of Syphilis which was published in THE LANCET of March 17th, p. 775. Having inoculated some monkeys with syphilitic virus, M. Metchnikoff and M. Roux applied friction with a mercurial unguent to the inoculation incisions one hour after they had been made. The subjects remained free from the disease and were subsequently re-inoculated with some of the same virus successfully, whereas the controlling monkeys which had not been subjected to the mercurial inunction in due course developed unmistakable signs of constitutional syphilis. In some cases a solution of corrosive sublimate was employed instead of the unguent but it proved useless as a preventive of secondary symptoms. In 1904 a young member of the medical profession, Dr. Bonnette, wrote an inaugural thesis on the "Utility of Mercurial Unguents in the Prophylaxis of Syphilis." In the first place, he said, grease reduces friction to a minimum. Secondly, greasy substances act as insulators and are extremely tenacious. A finger and thumb, previously greased, may be pressed together as hard as possible but still a thin greasy coating will remain on the digits, which will present a shiny appearance, leave marks on paper or linen, and resist the lodgment of moisture if they are plunged into water. Thirdly, when mercury is incorporated with an unguent applied to an epithelial surface an antiseptic layer is thereby deposited which will prevent microbian invasion by reason of its viscosity and causticity. Finally, although constitutional contamination may take place rapidly there is always an interval of quiescence; the poison does not penetrate instantaneously. As long as the infecting matter remains localised experience amply shows that cauterisation or excision can safeguard the subject from all bad consequences.

SUPPURATION IN THE ABDOMEN AND HIP-JOINT DUE TO AN ARTERY FORCEPS LEFT IN THE PERITONEAL CAVITY AFTER OVARIOTOMY.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 9th M. Le Gendre and M. Genévrier reported the following remarkable case in which an artery forceps was left in the peritoneal cavity after ovariotomy and caused suppuration which involved the right ilium and hip-joint. The patient was taken to hospital in the autumn of 1905. She had been in bed for three months and treated for phlebitis of the right leg, a diagnosis which was confirmed. There were considerable œdema of the limb and intense pain at its proximal extremity. In the inguinal region was a particularly painful spot and the lymphatic glands were enlarged. In December the hip was the seat of a diffuse swelling. Under the tense skin was a bluish network of a collateral venous circulation. The hip was very tender and gave a sensation of deep resistance. On vaginal examination the right fornix was found to be tender. The right lower limb became adducted and rotated internally and fixed in this position so that the hip joint did not permit of the slightest movement. Secondary deviations of the pelvis and spine took place. Osteosarcoma of the hip was diagnosed. Spontaneous pain became more and more intense and morphine was given. The cachexia increased and the patient died on Feb 27th. The necropsy revealed an entirely unexpected condition. Amidst the coils of intestine and covered by adhesions

Dr. Fanago observed the same effect when using urotropine: the bacteria did not entirely disappear. When the urine has become clear under the use of hetraline the drug should be continued for a time, since spores probably remain in the tissues and may thus be protected from the action of the hetraline. In gonorrhœa the drug does not seem to be of value, the gonococci not being destroyed by its action. From the reports of the cases given in this pamphlet further trials of hetraline are indicated. The results hitherto obtained seem to be encouraging.

A POISONOUS FLAVOURING AGENT.

WE quite agree with the jury in the following extraordinary case that nitro-benzene should be included in the schedule of poisons under the Pharmacy Act. In a biscuit factory at Truro a boy drank some almond flavouring which resulted in his death. The "essence" proved to be nitro-benzene which appears to be used as a flavouring agent and as a substitute for oil of bitter almonds. Nitro-benzene is a very powerful poison and the inhalation of even small quantities of the vapour has proved fatal Taken internally, 15 grains have been known to kill an adult, the poisonous symptoms resembling those produced by prussic acid. Spirituous liquids intensify its poisonous action. The use of nitro-benzene in food substances should be prohibited forthwith. This case affords another instance of the impudent disregard so often shown by substitute-mongers for the health of the public and honest dealing.

HOSPITAL APPOINTMENTS AND LIMITATION OF PRIVATE PRACTICE.

AS we mentioned in THE LANCET of March 24th at the annual meeting of the governors of the Cardiff Infirmary it was resolved that authority should be given for an addition to the honorary staff of one or more surgeons to the ear, nose, and throat department. As to this portion of the resolution we have nothing to say but it was further resolved that the gentlemen elected to these positions will be required to confine themselves in their private practices to diseases of the ear, nose, and throat. It is always highly desirable that in a hospital the several spheres of practice should be clearly marked out, for if this is not done much ill-feeling may arise, but we are not aware of any previous attempt to limit so closely the private practice of a member of the honorary staff of a hospital. The practising of pharmacy is, of course, often mentioned as not permitted and Members of the Royal College of Physicians of London were at one time not allowed to practise midwifery, but these restrictions are hardly akin to those mentioned above and it is a little difficult to know where to draw the line. For instance, would every disease in which the ear is affected be a disease of the ear? Post-influenzal infection of the mastoid would, we presume, be considered a disease of the ear. Again, if the aural surgeon is performing the complete mastoid operation and he finds reason for thinking that there is a septic thrombosis of the lateral sinus, would he or would he not be allowed to continue the operation so far as to incise the thrombosed sinus or to tie the internal jugular vein? It will be seen that difficulties and doubts may arise as to the limits of even such a special department as the ear, and the same must be the case with diseases of the throat or nose. What are the limits of the throat? The term, we suppose, includes the pharynx, the larynx, and the œsophagus, but how much more it is hard to say. We should like to know who is to be the arbiter as to the boundaries of these special departments; but apart from this point we do not consider the regulation a sound one or calculated to improve the professional position of medical men. It should be left to the individual feeling and discretion of medical men to set limits to the scope of their private practice.

A NEW FORM OF CONSCIENTIOUS OBJECTION.

AT Exeter recently the magistrates refused certificates for exemption from vaccination to an applicant who failed to satisfy them that he had a "conscientious objection" within the meaning of the Act. The person seeking exemption is described in the report before us as Mr. J. McIntosh, a dental surgeon in practice in the city of Exeter, and the ground upon which he made his application was the alleged discovery that vaccination "destroyed the second set of teeth and that was why so many people had bad teeth at the present time. Vaccination set up an eruptive fever just at the time that the second teeth were forming. He had treated 5000 people and 10 per cent. suffered through vaccination." The *Morning Post* informs us that a mandamus was threatened to compel the magistrates to give effect to this statement of the applicant's belief as a conscientious objection. This is a legal question which we must regard as *sub judice*. With regard to the views of Mr. McIntosh and his description as a dental surgeon, it is sufficient to say that his name does not appear upon the Dentists Register for 1906 as of Exeter, nor in the dental section of the Medical Directory for 1906, nor under Exeter in the Dental Annual for 1906. The view held by Mr. McIntosh is not accepted by the large majority of dentists and there is no pathological evidence to support his contention.

"PHILADELPHIA CLINIC FOR THE HOME TREATMENT OF CONSUMPTION."

ATTEMPTS are now being made in several countries to supplement the treatment of hospital patients by an endeavour to improve the hygienic conditions of their domestic surroundings. In order to be successful such an organisation has to be most complete and many difficulties must necessarily stand in the way. We have received a leaflet giving some of the details of a scheme which is to be tried in Philadelphia but unless more elaborate means are adopted the results will probably not be very satisfactory. The originators of the "clinic" point out that the hospitals in Philadelphia are doing their utmost to help in combating the almost unvarying death-rate in that city, but it is clear that they can never solve the whole of the problem. "For if they were to-day enabled to cure the eight or nine thousand consumptives who are annually sick or dying in this city, where hospital room does not exist for 1 in 70 of that number, another crop equally large would spring up to-morrow, unless pauperism, squalor, living in damp, unventilated, and overcrowded dwellings, deficient care while recovering from the effects of colds, of other diseases, and of injuries and unsanitary influences of all sorts are abated at the same time." The latter part of the above quotation would apply to all large cities and some organised endeavour to cope with these difficulties is urgently and constantly needed. The object of the clinic which is to be founded in Philadelphia is to treat the patients in their own homes, when they are able to contribute to their own maintenance, and also to undertake a "general hygienic care of their physical and social interests." Also, it is proposed to examine the members of families in which pulmonary tuberculosis has occurred in order to ascertain whether any of them show evidence of the disease. The board of managers has appointed a staff of physicians who will hold daily clinics between 3 and 4 o'clock every afternoon for the treatment of patients permitted to override the apparent meaning of the Coroner's Act, 1887. The doubt as to this, and the whole unfortunate dispute between the coroner in an important London district and the medical men practising therein, point to an insufficiency and want of clearness in the statute mentioned, and it may be suggested that whichever side may eventually be held to have been in the right those who are unsuccessful will more or less urgently demand some legislative change. The subject matter which gives rise to the inquest, the suspicion that a person has died a violent or an unnatural death, or a sudden death whereof the cause is unknown, is not stated in the most lucid possible manner for the guidance of the coroner, nor do all the circumstances in which an inquest might well be held appear to be included. The information required by a coroner in order that he may decide whether there shall be an inquest or not should be obtained from a medical man but no power to pay for such information is given. As to this a letter from "Country Doctor" at p. 1014 suggests the proper course to be adopted. The denial of fees to medical officers of lunatic asylums and hospitals summoned as witnesses may be cited as another point of interest to the medical profession as well as the disagreeable discussions which take place when a coroner believes that a medical man has given or has withheld a death certificate wrongly. Other matters besides differences of opinion of this kind show that not only the Coroners Act, 1887, should be reconsidered but that the law relating to the registration of deaths should be brought into harmonious combination with the provisions of any new one. The Act of 1887 continues the old qualification for the office of coroner that the candidate "shall be a fit person having land in fee sufficient in the same county whereof he may answer to all manner of people," and although this may be disregarded in practice it would presumably be deliberately omitted from a new measure with the substitution of some conditions as to the fitness by training and experience of the person appointed for his office. The necessity for medical qualifications for all coroners would naturally be urged by the medical profession when this point came to be dealt with. The coroners of to-day include many men whose knowledge and experience would entitle them to be heard upon questions affecting their office and fresh evidence from these would be available to supplement opinions already at the command of the legislature. A Bill dealing with any *one* of the points enumerated singly, or such a one as would merely relieve a jury of the "unpleasant" formality of "viewing" a dead body, would tend to delay rather than to expedite general and effective reform. The British Medical Association is known to favour legislative reform.

A Child "en Ventre sa Mere."

In THE LANCET of June 10th, 1905, p. 1602, was recorded a decision of Mr. Justice Swinfen-Eady in the divisional court that in a certain technical case a child born three weeks after the decease of the testator was excluded from certain provisions of a will as not being "born in the lifetime" of the author of the will. This decision caused surprise at the time and was regarded as creating an exception to the general rule enunciated in Bacon's Abridgment: "It is now clearly settled that a child *en ventre sa mere* is a life in being to all intents—except in the case of a descent at common law." An appeal was instituted and allowed on March 8th by the Master of the Rolls and Lords Justices Romer and Cozens-Hardy. They said that the principle to be deduced from a long series of decisions was that *primâ facie*, in the absence of a sufficiently weighty consideration to the contrary, for the purposes of devolution of property in connexion with intestacies or wills, no distinction ought to be drawn between a child born at a particular time and a child at that time *in utero* and subsequently born alive—and in particular in the case of wills no such distinction ought to be made unless the context required it.

ASYLUM REPORTS.

Hants County Asylum (*Report for the Year 1904*).—The average number resident at this asylum was 1094, the sexes being nearly equally divided. Whilst showing considerable fluctuations the number resident has, with one exception, been above 1000 since 1893, and is now 78 above the figure in that year. The admissions numbered 197, or 22 less than in the previous year; the admissions have not been so few since 1889 and have decreased steadily for the past three years. As regards causation, hereditary influence, direct and collateral, was ascertained in less than 20 per cent. of the admissions. This is a very low proportion and it may be doubted whether this figure accurately represents the incidence of the hereditary factor. The other causes given are not noteworthy. The percentage of recoveries on admissions was 37·6, the mean annual figure for the period during which the asylum has existed being 32·8. The percentage of deaths on the average number resident was not more than 8, which is lower than it has been for nine years. Tuberculosis accounted for about 28 per cent. of the deaths, a high proportion. Amongst other causes we notice peritonitis due to fæcal obstruction as responsible for one death. This is a very unusual cause and requires, we think, elucidation. Necropsies were performed in 76 per cent. of the deaths. The medical superintendent, Dr. T. B. Worthington, from whose report the above extracts are made, remarks that the number of melancholic and actively suicidal cases brought for treatment is much larger than that of the maniacal and seems to increase yearly. The health of the asylum was good; colitis occurred in only four cases and enteric fever in one. The annual report of the Commissioners in Lunacy speaks favourably of the state of the institution.

Nottingham City Asylum (*Report for the Year 1904*).—The average number resident in this asylum during 1904 was 759. The admissions numbered 168, the discharges 65, and the deaths 81. The percentage of recoveries on admissions was 36·94, the average for the past 25 years being 39·4. The percentage of deaths on the average number resident was 10·67, the average for the period mentioned being 10·36. During the past 20 years the numbers resident have increased from 350 to 759. The female division is overcrowded and the provision of further accommodation is under consideration. The character of the admissions was very unfavourable, fully 45 per cent. presenting little or no prospect of recovery. According to Table X., which deals with the causes of insanity in the admissions, 193 cases were admitted, whereas the report gives the figure as 168. In 31 cases the cause appears under the heading "other bodily diseases and disorders." This is a rather large proportion, and it would be conducive to more accurate knowledge were these conditions referred to more fully in this and other asylum reports. Hereditary predisposition was found in the low proportion of 21 per cent. of the cases, and alcoholic excess in 12 per cent. according to the report, but the percentage occurrence, based upon 168 admissions, would give 11·4 per cent. Mr. Evan Powell, the medical superintendent, reports that the general health has been good; no infectious disease occurred and no death took place as a result of insanitary conditions in the building. The death-rate from pulmonary tuberculosis has, however, risen from 7·6 per cent. of all deaths last year to 14·8 per cent. this year, though it is still below the average for asylums of similar size. The committee states that it feels it a duty to consider the desirability of providing separate accommodation for private patients of the middle class. This view is gradually being adopted by the managing bodies of county asylums. This asylum is economically managed, the weekly charge being the low one, for city and borough asylums, of 10*s.* The Commissioners in Lunacy report favourably of the condition of the institution.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8933 births and 5150 deaths were registered during the week ending March 31st. The annual rate of mortality in these towns, which had steadily declined in the four preceding weeks from 17·4 to 15·8 per 1000, rose again last week to 17·0. In London the rate was 18·5, while the average rate in the 75 other large towns did not exceed 16·3. The lowest death-rates in these towns during the week were 8·3 in Grimsby, 9·0 in Hornsey, 9·4 in Willesden, and 9·7 in Leyton; the highest rates were 21·3 in Birmingham, Bootle, and Bury, 21·4 in Huddersfield, 22·1 in Liverpool, 22·2 in Blackburn, 22·8 in Hanley, 23·3 in Warrington, and 24·5 in Middlesbrough. The 5150 deaths in these towns included 492 which were referred to the principal infectious diseases, against 469, 435, and 414 in the three preceding weeks; of these 197 resulted from measles, 158 was a blackened artery forceps. It lay perpendicularly in the right iliac fossa with the handles approaching the umbilical region. The blades lay in a sheath of adhesions which contained a little pus. The tip of the forceps pressed against the ischio-pubic rami below the femoral vessels. At this point the bone was bare and the sheath of adhesions in which the forceps lay was continued under the femoral arch. A probe passed down this canal arrived at the external surface of the ilium, which was also bare. The region of the hip was exposed by a large incision and the joint was found to be destroyed completely. The head of the femur, the acetabulum, and the external surface of the ilium were profoundly necrosed. The surface of the bones was blackish. Sanious and fœtid pus, similar to that which bathed the forceps, flowed out. Evidently a communication with a stercoral abscess existed. Six years before death an operation had been performed in a foreign country. This the necropsy showed was double ovariotomy.

ON Wednesday, April 11th, a discussion will be held at the Hunterian Society, London Institution, Finsbury-circus, London, E.C., at 8.30 P.M., on Syphilis, to be opened by Mr. Jonathan Hutchinson. The disease will be considered in relation to mental disease, the nervous system, and the viscera. All medical men are cordially invited. At the following meeting of the society the discussion will be continued in relation to congenital syphilis, syphilis of the eye and the skin, and general treatment.

MANY of our readers will be glad to hear that the MS. of Dr. John Brown's famous little story, "Rab and His Friends," which was sold by Messrs. Sotheby, Wilkinson, and Hodge last week for £40, was secured by Mr. Quaritch for some Edinburgh medical men who intend to present it either to the library of the Royal College of Physicians of Edinburgh or to that of the University.

A TELEGRAM from the Governor of Hong-Kong received at the Colonial Office on April 2nd states that for the week ending March 31st there were 27 cases of plague and 25 deaths from the disease.

THE forty-sixth annual dinner of King's College (University of London) will be held at the Hotel Cecil on Monday, May 7th. Mr. Justice Grantham will occupy the chair.

King Edward's Hospital Fund has received a cheque for £10,000 for the capital fund through a bank, with instructions that the donor desires to remain anonymous.

BRITISH MEDICAL BENEVOLENT FUND.

AT the monthly meeting of the committee held on March 20th 15 applications were considered and sums amounting to £176 voted in relief. Mr. Parker Young was unanimously re-elected chairman for the ensuing year and the annuity subcommittee was re-appointed for the same period. Appended is a short abstract of the cases.

1. *Daughter, aged 56 years, of* late M.R.C.S., who practised in Wiltshire. Is given a home by brothers in return for services but receives no salary. Health delicate Relieved five times, £84. Recommended by Mr. T. H. Cheatle. *Voted* £12 in 12 instalments.

2. L.S.A., aged 62 years. Used to have an excellent practice in the south-west of London but the neighbourhood degenerated and applicant's difficulties were increased by severe *and prolonged* illnesses in his family. He is now endeavouring to establish a cash practice and has exhausted the proceeds of the lease of his former house in doing so. Recommended by Dr. J. Mitchell *Bruce*, vice-president. Voted £18 in 12 instalments.

3. *Widow*, aged 48 years, of L.R.C.P. Edin., L.R.C.S Glasg., who practised in Cumberland. Small capital left at husband's death was spent in paying his debts, and applicant's children, although doing all they can to help, are unable to contribute sufficient to support her. Recommended by Dr. G. H. Hume. Voted £10 in two instalments.

4. Widow, aged 63 years, of M.R.C.S , L S.A., who practised in New South Wales. *For 15 years since her husband's death* applicant has supported herself as cook in a large lodging house kept by a friend but now has to give up her post as the house no longer pays expenses. Recommended by Dr. W. Travers. Voted £14 in 12 instalments, the first instalment to be £3.

5. Widow, aged 48 years, of L R.C P., L.R.C.S. Edin., who practised in London. Quite unprovided for at husband's death; tries to support herself by needlework and proposes to obtain employment which will give her a home. Relieved *once*, £12. *Recommended by Dr. Mitchell* Bruce. Voted £5 in one sum with leave to apply again in six months.

6. *Widow, aged 61 years, of* M.D., *C.M.* Glasg., who practised in Lancashire. Received £14 a year from a Working *Ladies'* Guild and a few shillings a week from a son who is a railway signalman. Relieved six times, £72. Recommended by Miss Farquhar. Voted £12 in 12 instalments.

7. Widow, aged 45 years, of M.B , C.M. Edin., who practised in Perthshire. Income £20 a year and *supplements this and the slight* help given by a relation by taking boarders in the summer. Six children, aged 15 to eight, two being at an institution. Relieved seven *times*, £78. *Recommended by Dr. A. R. Urquhart*, honorary local secretary. Voted £12 in 12 instalments.

8. Widow, aged 47 years, of L.R.C.P. Edin., M.R.C.S. Eng., who practised in Herefordshire. Five children, only two of whom are able to contribute to their maintenance. Just manages to make both ends meet by taking several boarders. Husband was totally incapacitated for several years before death and applicant was consequently left unprovided for. Relieved three times, £48. Recommended by *Surgeon Lieutenant-Colonel Deeble. Voted £12 in 12 instalments.*

9. Widow, aged 55 years, of L.F.P.S. Glasg., who practised in London. Ten children, of whom one is an invalid, two are out of work, and two at school, the rest contributing what they can for themselves and the maintenance of the rest of the family. Relieved seven times, £108. Recommended by Dr. J. O. Adams, vice-president. Voted £12, in 12 instalments.

10. Widow, aged 42 years, of L.R.C.P., L.R C.S. Edin., who practised in Cardiganshire. Left unprovided for at husband's death and was dependent on her father, now deceased. Two children in the merchant service, one just self-supporting, the other only apprenticed. Relieved once, £12. Voted £3 immediately and *case to be further considered* at the next meeting.

11. Daughter, aged 58 years, of M.R.C.S., L.S.A., who practised in Lancashire. Was comfortably provided for at father's death, but the capital was misappropriated by the trustee, and applicant now has no means of subsistence Relieved once, £18. Recommended by Dr. J. E. Nevins, honorary local secretary, and by Dr. J. Cameron. Voted £18 in 12 instalments.

12. *Widow, aged 45 years, of* L.R.C.S , L.S.A., who *practised* in Durham. No income; endeavours to support herself by needlework. Indifferent health. Two children; one just self-supporting, the other a school-girl. *Relieved four times, £35. Recommended by Mr. Henry* Power. Voted £12 in 12 instalments.

13 Widow, aged 62 years, of L.R.C.P., L.R.C.S. Edin., who practised in Glasgow. Only income £10 a year from a charity; endeavours to support herself by taking boarders, but health so bad that at present she can only look after one. Only child, a daughter, has just finished a course of training as a teacher and is waiting for a post. Relieved seven times, £24. Recommended by Dr. Joseph Bell, honorary local secretary, and by *Sir Patrick Heron* Watson. *Voted* £12 in 12 instalments.

14. Widow, aged 44 years, of M.R.C.S., L.S.A., who practised in Sussex. No income; receives a home and small *salary for services as* working housekeeper, but applicant's health is so indifferent that she often has to pay for a substitute. Children unable to help. Relieved seven times, £88. Recommended by Dr. R. Shingleton Smith. Voted £12 in 12 instalments.

15. *Daughter*, aged 50 years, of M.R.C.S., L.S.A., who practised in London. No income; allowed £18 a year by a sister. Health too precarious for continued exertion. Relieved eight times, £89. Recommended *by* Mr. W. Bramley Taylor and Mr. Frank Hewkley. Voted £12 in 12 instalments.

MEDICINE AND THE LAW.

Changes in the Law regulating Inquests.

A PRIVATE Bill which has been introduced in the House of Commons and has been mentioned as being one which may be pressed forward has for its object the relief of coroner's juries from the obligation to view the dead bodies forming the subject of their inquiries. The matter has often been discussed and it is not likely that anyone would seriously oppose such a measure, but the system has been in existence from time immemorial and its alteration cannot be said to be of urgent importance. On the other hand, amendments of the law of a trifling character made from time to time complicate it needlessly and may have the effect of postponing more important changes by removing minor grievances and by inducing a feeling that no further improvement of the existing state of affairs is needed. The medical profession, particularly those members of it who practise in the division in which Mr. Troutbeck presides as coroner, are awaiting with interest the next stage in the proceedings relating to the payment of fees to Dr. Freyberger. The question at issue as to this seems to depend largely upon how far any discretion which the coroner may possess under the common law with regard to the summoning of medical witnesses is

The Order of the Osmanieh.

The King has given to the undermentioned officers permission to accept and wear the Imperial Ottoman Order of the Osmanieh, Fouth Class, which has been conferred upon them by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of valuable services rendered to His Highness: Major John Herbert Rivers, R.A.M.C., and Captain Hamilton George Frampton Stallard, R.A.M.C.

The Appointment of Surgeon-General in India.

The *Army and Navy Gazette* of March 31st says: "The officers of the Royal Army Medical Corps have gained the day in the matter of the surgeon-general's appointment in India, over which, as we have already stated, the War and India Offices have been fighting for nearly a year. This decision will take Surgeon-General Slaughter to Bombay, vice Gubbins, for the former officer, pending this decision, has remained on at Colchester (a colonel's appointment). Arrangements can thus now be made for the appointment of a successor to Surgeon-General W. H. Macnamara at Aldershot whose retirement by age falls due in June."

Appointment of Dental Surgeons.

Mr. W. J. F. Middlemiss, L.D.S. Edin., has been appointed a dental surgeon to the troops in Ireland and Mr E. H. Wyand, L.D.S. Eng., to the troops at Aldershot.

Correspondence.

"Audi alteram partem."

THE ETHICS OF THE MEDICAL PROFESSION IN RELATION TO SYPHILIS AND GONORRHŒA.

To the Editors of THE LANCET.

SIRS,—I hope that Mr. Campbell Williams's able address, the correspondence between him and Mr. Dudley Burney, and your annotation, "The Prevention and Early Treatment of Syphilis," will lead to something practical being done. In the *brochure* to which you kindly referred I showed seven years ago that special hospitals and special wards in general hospitals for these diseases were becoming a vanishing quantity, and as regards wards in general hospitals this has been accentuated, ward after ward in the London hospitals having been closed against the patients formerly received and devoted to medical and surgical cases. The general public has never shown much sympathy for such hospitals. Whether this be due to the odium attaching to the word "lock" or to any other cause I do not know. As regards lock wards in general hospitals I would ask with all respect whether the medical and surgical staff of each hospital is free from blame. Patients with those diseases are seen as out-patients in every general hospital. No one will dispute the importance of all students being taught how to diagnose promptly and to treat these diseases. Is this done? Among the out-patients are many cases of syphilis and gonorrhœa. Are they seen by the assistant surgeon who has had the greatest experience of them and who is most competent to teach the students? Is there a special day for seeing these cases? Cannot the governing body of each hospital be induced by the medical staff to set apart at least a few beds for cases that cannot be efficiently treated as out-patients? Surely there is something very inconsistent in refusing to admit a patient, male or female, suffering from primary syphilis in a very aggravated form and having in the medical wards patients suffering from syphilitic diseases of the brain, the lungs, the heart, &c., and in the surgical wards men suffering from the results of repeated attacks of gonorrhœa.

In Liverpool the only wards for the reception of patients suffering from these diseases are those of the local workhouses, Liverpool, West Derby, and Toxteth. The same must be true of many another large town and city in England. These facts, which are indisputable, strongly emphasise the recommendation of the committee on the deterioration of health that a Government inquiry should be held as to the present provision for the treatment of pox. It concerns all members of the profession. Obstetricians and gynæcologists see the effects of syphilis in innocent sufferers, married women and children. Physicians, surgeons, and specialists of all kinds could give valuable evidence of the far-reaching nature of syphilis and of gonorrhœa. The baneful effect of these two poisons—the syphilitic and gonorrhœic toxins—are almost unlimited.

I am most anxious that this letter should be read, should you be kind enough to afford me the space. Hence, I do not wish to make it long and have omitted all reference to the moral and social points. I hope that some medical or lay member of the House of Commons may be induced to put a question to the President of the Local Government Board asking him if he will grant the inquiry asked for.

I am, Sirs, yours faithfully,

Liverpool, March 31st, 1906. F. W. LOWNDES.

To the Editors of THE LANCET.

SIRS,—Whether statistics are like alchemical formulæ or whether it is possible to get trustworthy statistics showing that the percentage incidence of venereal disease is really alarming will never alter the fact that syphilis is the cankerworm of a large majority; that the tissues built up in mature and *embryonic life, in contact* with the spirochæta, are so spoilt and "jerry-built" as to be a ready prey to stress and to alcohol, nay, almost any known malady that comes under the nomenclature of disease. Then, logically speaking, with common-sense principles of the present day, is not preventive *medicine* the proper course of treatment? But, I ask, how can the practice be governed, even if legislation were brought into fashion under a system of notification? Supposing every man and woman so notified were kept under surveillance would it not end as a mare's nest, gratifying, no doubt for the time being, a few of us?

No, Sirs, society will never tolerate a universal Contagious Diseases Act, however desirable or consistent it may be thought fit to place such military stations as Aldershot, Woolwich, &c., under sexual supervision. Filthy in mind and body as some prostitutes appear, still the class of men whom they appeal to are, in many instances, as equally depraved. Beastliness is not the word. And I maintain that a woman's privacy should not be unprotected more than that of a man's in any class of society to which the word prostitution, relatively speaking, is applicable. Just imagine for a moment what a state of chaotic uproar it would lead to should general notification of syphilis become law. Thus my argument is to leave things as they are in hopes that the swing of the pendulum will affect even sexual matters.

It would indeed be satisfactory to know who is the greater sinner in sexual matters, the man or the woman; whether a large amount of prostitution is not the outcome of man's infidelity; and whether, instead of labeling the woman, it should not be the other way about. These are my views on the subject and which I consider dishonourable men might *take to heart; and if* they cannot or do not wish to comply with the decent laws of sexual *congress* let them pay the penalty and the weight of this ethical question in civilised Great Britain. Indirectly, I think, the danger zone is man himself, when we regard the spread of syphilis, especially in my mind the worse type—viz., congenital. If a man sows wild oats and he comes to grief, why should human breeding suffer? This is the crux of the whole matter so far as the deadly effects of syphilis are concerned.

Those who are of the *insane stock* and who do not breed do no one any harm; so it is with those who *have* contracted syphilis. Thus I shall always condemn marriage at the altar by a man who has acquired this disease. And I would support any Bill that the parliament of the profession might bring forward as a preventive step for decreasing the degenerate class, believing that congenital syphilis is the spoiling agent in many cases.

In conclusion, although syphilis may be contracted accidentally, still there is a potent disease which, considering all circumstances, is a death-blow to healthy breeding. Among men of a *high* ethical standard marriage at the altar, considering these circumstances, would be out of the question. But such recommendation of healthy breeding would not appeal to another class whose ethical standard is low. Therefore men who have had frequent intercourse with a variety of women and who have acquired syphilis should not be representative human breeders. On the contrary, they had better remain as bachelors and live with the class of women whose society they have so long encouraged instead of ravaging the genealogical tables of healthy women.

from whooping-cough, 46 from diphtheria, 39 from diarrhœa, 32 from scarlet fever, and 20 from "fever" (principally enteric), but not one from small-pox. No death from any of these infectious diseases was registered last week in Bournemouth, Reading, Ipswich, Norwich, Plymouth, Stockport, Wigan, Rochdale, or in seven other towns, while they caused the highest death-rates in Liverpool, Preston, Handsworth, Wolverhampton, Blackburn, Smethwick, and Bury. The highest rates of mortality from measles occurred in Bristol, Newcastle-upon-Tyne, Yarmouth, Tottenham, Blackburn, Preston, and Bury; from whooping-cough in Warrington, Aston Manor, West Bromwich, Handsworth, and Smethwick; from diphtheria in St. Helens and Leicester; and from diarrhœa in Oldham. The mortality from scarlet fever and from enteric fever showed no marked excess in any of the large towns. No death from small-pox was registered during the week either in London or in any of the large provincial towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been six, seven, and ten at the end of the three preceding weeks, declined again to eight at the end of last week, no new case having been admitted during the week, against five in the previous week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday last, March 31st, was 2386, against numbers declining from 2628 to 2434, on the four preceding Saturdays; 223 new cases were admitted during the week, against numbers declining from 273 to 234 in the four preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 334 and 320 in the two previous weeks, rose again to 337 last week, and exceeded the corrected average for the corresponding week in the four preceding years by 20. The causes of 57, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, Hull, Newcastle-on-Tyne, West Ham, and in 48 other smaller towns; while the highest proportions of uncertified deaths were registered in Liverpool, Birmingham, Manchester, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·3, and 18 0 per 1000 in the two preceding weeks, rose again to 18·9 during the week ending March 31st, and exceeded by 1 9 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·8 and 16 5 in Leith and Edinburgh to 21·4 and 21·8 respectively in Greenock and Dundee. The 647 deaths in these eight towns included 27 which were referred to measles, 11 to whooping-cough, 12 to diarrhœa, six to scarlet fever, four to diphtheria, two to "fever," but not one to small-pox In all, 62 deaths resulted from these principal infectious diseases last week, against 81 and 57 in the two preceding weeks. These 62 deaths were equal to an annual rate of 1·8 per 1000, which exceeded by 0·2 the mean rate last week from the same diseases in the 76 large English towns The fatal cases of measles, which had been 37 and 20 in the two preceding weeks rose again to 27 last week, of which 14 occurred in Glasgow, seven in Edinburgh, and two both in Dundee and Paisley. The fatal cases of whooping-cough declined again last week to 11, from six and 16 in the two previous weeks, and included seven in Glasgow and two in Dundee. Three of the four fatal cases of diphtheria were registered in Glasgow and of the 12 deaths referred to diarrhœa five were returned in Glasgow and two both in Edinburgh and Dundee. The deaths referred in the eight towns to diseases of the respiratory organs, which had been 125 and 128 in the two preceding weeks, declined last week to 103, and were within one of the number returned from the same diseases in the corresponding week of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·1 and 25·6 per 1000 in the two preceding weeks, further rose to 26·1 during the week ending March 31st. During the 13 weeks of last quarter the death-rate averaged 22 9 per 1000; during the same period the mean death-rate did not exceed 16·6 in London and 17·4 in Edinburgh. The 190 deaths of persons belonging to Dublin registered during the week under notice showed an increase of four upon the number in the previous week and included ten which were referred to the principal infectious diseases, against ten and four in the two preceding weeks; of these, three resulted from diphtheria, three from "fever," two from whooping-cough, two from diarrhœa, but not one from small-pox, measles, or scarlet fever. The ten deaths from these infectious diseases were equal to an annual rate of 1·4 per 1000, the death-rates last week from these diseases being 1·8 in London and 2·0 in Edinburgh. The three fatal cases of diphtheria in Dublin exceeded the number in any previous week of last quarter; and it is noteworthy that seven deaths from "fever," probably enteric, were registered during the last three weeks of the quarter. The 190 deaths in Dublin last week included 40 of infants under one year of age and 54 of persons aged upwards of 60 years; the deaths of infants showed an increase, and those of elderly persons a decline, compared with the numbers in the previous week Four inquest cases and three deaths from violence were registered; and 87, or no less than 46 per cent. of the 190 deaths, were recorded in public institutions. The causes of 12, or 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified:—Fleet Surgeon G. A. S Bell to the *President*, for hospital course. Staff-Surgeons: F. Fedarb and E G. E O'Leary to the *President*, for hospital course; R. W. Stanistreet to the *Doris*; and H. E. Fryer to the *Tyne*. Surgeons: P. W. MacVean to the *Sapphire II.* and A. T. Gailleton to the *President*, for hospital course.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Edward Wentworth Luther has been placed on the Retired List at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated April 1st, 1906).

ROYAL ARMY MEDICAL CORPS.

Colonel Montgomerie Blennerhassett, C M.G., retires on retired pay (dated April 4th, 1906).

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the undermentioned officers:—Lieutenant-Colonel Frederick William Wright, D.S.O. (dated Dec. 7th, 1905); Lieutenant-Colonel Eugene Cretin (dated Dec. 31st, 1905); Lieutenant-Colonel Gerard Macklin Eccles McKee (dated March 14th, 1906).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Robert T. C. Robertson, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated April 4th, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Edinburgh (City): James Hunter Harvey Pirie (formerly Second Lieutenant, Royal Field Artillery), to be Surgeon-Lieutenant (dated March 31st, 1906).

Royal Engineers (Volunteers): 1st Sussex: Surgeon-Captain A. H. Croucher resigns his commission (dated March 31st, 1906).

Rifle: The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Surgeon-Captain J. A. Clark to be Surgeon-Major (dated March 31st, 1906). 2nd Volunteer Battalion the Northumberland Fusiliers: Supernumerary Surgeon-Lieutenant F. N. Grinling (Commanding Tyne Volunteer Infantry Brigade Bearer Company) to be Surgeon-Captain, remaining supernumerary (dated March 31st, 1906). 20th Middlesex (Artists') Volunteer Rifle Corps: Surgeon-Captain C. S. de Segundo is granted the honorary rank of Surgeon-Major (dated March 12th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Seaforth and Cameron Bearer Company: Captain J. Macdonald to be Major (dated March 31st, 1906).

base conclusions. Mr. Moynihan himself has, I believe, adopted the no loop method only within the last two years, too short a period in which to judge of the after results. My contention is that at the present time we are not entitled to maintain that experience is conclusive as to the status of the no-loop method, nor can I admit that "every argument" is in favour of it. The no loop method is, at least so it seems to me, wrong in principle, as it must be mechanically incorrect to unite a portion of the jejunum close to its origin to a moveable organ like the stomach. That this is not a hypothetical objection is proved by a case recently recorded by Munford[1] in which death ensued owing to the anastomosis being torn apart by the contraction of the stomach. Such an accident can hardly occur if a loop be left between the origin of the jejunum and the site of the anastomosis.

With regard to the occurrence of internal hernia, Mr. Moynihan asserts that such an occurrence is impossible if the edges of the mesocolon are stitched to the jejunum. Impossible is a strong word to use in connexion with the abdominal cavity, a region about which prophecy is extremely hazardous. Mr. Moynihan himself has, so I am informed, adopted this plan for less than two years and since in some of the recorded cases of gastro-jejunostomy (including one of Mr. Moynihan's own) internal hernia has not occurred until *after an interval of two years*, surely it is too early to speak positively as to the impossibility of internal hernia when the mesocolon is stitched to the jejunum. In the absence of any direct evidence on the point I think we may be sceptical as to whether the insertion of three stitches will invariably secure permanent and efficient closure of the opening into the lesser sac.

Mr. Moynihan next deals with the subject of regurgitant vomiting. He admits that the obstruction is at the anastomotic opening and then concludes: "The cause of this obstruction I submit, therefore, is to be found in the loop." I confess I do not follow this reasoning. Why if the obstruction be at the anastomotic opening should the loop play any part in its production, unless, indeed, Mr. Moynihan maintains that the obstruction is secondary to "water-logging"? Be this as it may, my contention is that regurgitant vomiting is a preventable complication, and there is no evidence that it is more common after anterior than after posterior gastro-jejunostomy.

Next as to peptic jejunal ulcer. Mr. Moynihan takes exception to my explanation of the fact that more instances of peptic jejunal ulcer have followed the anterior than the posterior operation—namely, that the anterior operation has been more frequently performed. He says, "it is almost certain that the posterior operation has been performed far more frequently." My answer is that a search through the records of the period 1831 to 1904 indicates that the anterior operation had been performed more frequently than the posterior, and the difference is probably sufficient to account for the larger number of jejunal ulcers which have followed the anterior operation. The important point, however, to which Mr. Moynihan does not allude is that peptic jejunal ulcer following the posterior is apparently a more serious complication than after the anterior operation.

Lastly, Mr. Moynihan states that "the choice of the posterior operation is the result of a considered and well reasoned opinion that it is a safer, and so far as the after-results are concerned a more successful, operation than the anterior, and established by long experience." Does Mr. Moynihan refer to the posterior operation with or without a loop? If he refers to the "no loop" method, advocated by Czerny and Petersen in 1901, he can scarcely maintain that it is an operation established by long experience. If, on the other hand, he refers to the posterior operation with a loop, I submit that the series of cases brought forward in my lectures shows that there is no evidence that the posterior operation is either safer, or more satisfactory as to the after-results than the anterior. I adduced records of patients who have lived in perfect health for 10, 12, 14, 18, and 19 years after anterior gastro-jejunostomy, some of whom have regained and maintained their normal weight. Can the advocates of posterior gastro-jejunostomy wish for better results than these?

Probably the last word has yet to be said as to the best method of performing gastro-jejunostomy, so that opinions, however considered and well-reasoned, must be accepted with caution and not accepted as final until they are supported by a long series of observed facts. For the present I submit that, whatever may be the case later, there is no conclusive evidence to show that the results, either immediate or remote, are better after the posterior than after the anterior operation. Until such evidence is forthcoming I shall continue to employ the simpler and, in my own experience, perfectly satisfactory anterior operation.

I am, Sirs, yours faithfully,

HERBERT J. PATERSON.

Upper Wimpole-street, W., March 30th, 1906.

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[1] Munford: Annals of Surgery, January, 1906, p. 83.

THE QUESTION OF PAY HOSPITALS.

To the Editors of THE LANCET.

SIRS,—The general attention which is at the moment directed to schemes for providing public institutions for patients able to pay for their support has brought to light a good deal of evidence of the efforts made to deal with this subject—as long ago as 1831 in the case of St. Thomas's Hospital and 1854 in the case of Guy's Hospital. Smaller institutions may also claim to have to a great extent solved the problem and of these the Hampstead General Hospital was undoubtedly one of the first. Started as a home hospital in 1882 its special feature was that all patients were expected to contribute towards their support. It was found necessary later to provide free beds, the number of which has been increased now that the hospital has removed to the new building at Haverstock Hill. The experience of this institution goes to show that there is real need for beds for paying patients and when in the near future the hospital is enlarged to 115 beds it is intended to provide a special block with 20 beds for patients of this class, entirely seperated from the free wards.

The problem is made more difficult by the want of uniformity in hospital methods. Applications for admission here both to beds at the contributing rate of 12*s.* per week and the private rooms at the rate of £3 3*s.* per week have come from all parts of London. The former have necessarily been restricted to patients from the districts naturally served by the hospital and as regards the latter applications from the neighbourhood receive preference. These charges serve as a working basis, variations being, of course, made in special circumstances, and the provision of the beds at the higher rate being made for the benefit of those only who cannot properly afford the charges in an ordinary nursing home.

I am given to understand that at least one of the London hospitals which have accommodation of this kind restricts the practice to consultants but the course adopted in the Hampstead General Hospital, and which appears to be growing in favour, is that the patients shall be attended by their ordinary medical attendants, and that the necessary arrangements for the attendance of consulting physicians or surgeons shall be left in their hands.

I am, Sirs, yours faithfully,

ERNEST COLLINS,

Chairman of the Council.

Hampstead General Hospital, Haverstock Hill, N.W.,
March 28th, 1906.

ROYAL ARMY MEDICAL CORPS VOLUNTEERS (LONDON COMPANIES).—On March 31st a smoking concert was held by the London Companies of the R.A.M.C. Volunteers at their headquarters, 51, Calthorpe-street, Gray's Inn-road, to bid farewell to Mr. G. Small, late sergeant-major and senior instructor to the corps. During an interval in the proceedings a framed address and purse of money, subscribed by members of the corps past and present, were presented by the commanding officer, Colonel V. Matthews, who spoke warmly of Mr. Small's good influence on the corps during his connexion with it, which extended, off and on, over a period of nearly 22 years, ever since its first inception, and paid at the same time a graceful tribute to Mr. Small's high personal character. In thanking the donors, Mr. Small expressed the great pleasure that he experienced in accepting the gift and recalled many interesting incidents which occurred during his period of office. That there was much musical talent in the corps was evidenced by the lengthy nature of the programme provided, Colonel Matthews and most of the other officers taking an active part in the proceedings.

This, then, appears to me to be the ethics of the medical profession in relation to syphilis.

I am, Sirs, yours faithfully,
Alton, Hants, March 23rd, 1906. J. F. BRISCOE.

PERFORATED DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—There are several points in the interesting communication on duodenal ulcer by Mr. S. Maynard Smith which appear to deserve remark.

In the first place perforated duodenal ulcers are by Mr. Smith divided into three classes, which may be briefly summarised thus: (1) acute perforation into the peritoneum with flooding of the whole sac; (2) acute perforation with flooding of part only of the sac; and (3) chronic perforation, which is either retroperitoneal or takes place into limiting adhesions. Although this method of classification is excellent from a clinical point of view, yet the use of the terms "acute" and "chronic" and also of the term "perforation" is open to criticism. There are two modes in which the "perforation" of a duodenal (or gastric) ulcer may occur: *rupture* by disturbance of adhesions, which is the rule; and *perforation* by extension of active ulceration, which is the exception. So called "acute perforation," whether it results in complete flooding of the peritoneal cavity, as in Class 1, or in a more limited intraperitoneal effusion, as in Class 2, in all the cases I have had the opportunity of critically examining has been due to tearing out of the floor of an ulcer by traction exerted on its adhesions. I think this accident is best expressed by the term "rupture." The mishap may be the result of muscular effort or of blows or be due to the traction exerted by a loaded or forcibly contracting stomach.

In the second place, there is a fact connected with these ulcers which is not sufficiently emphasised and which has some bearing on the feasibility of complete and satisfactory excision. In many instances the ulcers are not solitary and they are often placed one on the anterior and one on the posterior duodenal wall. Complete excision in such cases necessitates the removal of a complete segment of the bowel and if practised at the time of operation for perforation adds considerably to the gravity of a case already sufficiently serious.

Lastly, I should like to draw attention to the accuracy and great practical importance of the account given by Mr. Smith of the track followed by intraperitoneal suppuration due to rupture of a duodenal ulcer. We owe the description of the right kidney pouch to Mr. Rutherford Morison[1] who rightly recognised its importance. The influence attributed to the colon and to the configuration of the posterior abdominal wall in determining the track of intraperitoneal suppuration is in complete accord with the observations of Dr. A. E. Russell, Mr. Cuthbert S. Wallace, and myself, which are embodied in papers in the St. Thomas's Hospital Reports for 1897, the *British Medical Journal* of Feb. 8th, 1902, and more recently in the Transactions of the Medical Society of London, vol. xxviii. To Mr. Wallace is due, I believe, the credit for the term "peritoneal watersheds," which so admirably summarises the influence of the projection of the bodies of the vertebræ and of the iliac crests in determining the course of fluid collections in the peritoneal cavity of a patient lying in the supine position. I am, Sirs, yours faithfully,
Devonshire-place, W., March 30th, 1906. CHARLES R. BOX.

ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.

To the Editors of THE LANCET.

SIRS,—The interesting letters that you have published upon the subject of ethyl chloride indicate an unusually marked divergence of opinion. Some practitioners, in fact, at the present time appear to think that this anæsthetic should never be used, whilst others maintain that it is best in almost every case of short operation. Some freely argue that ethyl chloride is a perfectly safe drug and others see in it a source of *ready danger*. Now, Sirs, it seems to me undeniable that, on the one hand, there is no comparison between the relative safety of nitrous oxide and ethyl chloride and, on the other hand, there is equally no question that there are many cases where ethyl chloride is the most desirable anæsthetic to employ. So far as the question of safety goes, the matter is scarcely one of opinion. When the number of recorded fatalities that have been collected *from the thousands, almost the millions*, of cases of nitrous-oxide anæsthesia is balanced against the recorded fatalities due to ethyl chloride within the space of three years it is barely rational to maintain that the latter is on the same plane with the former so far as the question of safety is concerned. Moreover, it requires very small experience of anæsthetics to realise from clinical phenomena the totally different degree of potency of the two agents. The same may be said as regards the frequency of after-effects. Nevertheless, I agree entirely with those of your correspondents who uphold the value of ethyl chloride, if only they will admit that it is never to be used when nitrous oxide is available and is suited to the case. There is a special field, I believe, for ethyl chloride in cases of short operations upon persons who are not good subjects for nitrous oxide and also as a preliminary to ether in the case of these subjects when they are to undergo longer operations. As far as my own experience goes, it is in the cases of the alcoholics and of the muscular, high-coloured, thick-necked men—soldiers, *athletes, carmen, &c.—that ethyl chloride is particularly valuable.* Nitrous oxide, as is well known, does not give its best results with this type of individual, whether used alone or with air or with oxygen. With ethyl chloride, on the contrary, the requisite length and quiet of anæsthesia are easily obtained in such cases, and when the drug is used to precede ether from a Clover's inhaler it is equally satisfactory. In the case of the individuals to whom I am referring I believe ethyl chloride, if the dose is properly regulated, can be perfectly safely given in the sitting position; they are, of course, persons with powerfully acting hearts. In the case of small children, for whom ethyl chloride is now so often used for "tonsil and adenoid" operations, it is, as far as I have observed, very easy to get into danger with this anæsthetic.

I am, Sirs, yours faithfully,
J. BLUMFELD,
Senior Anæsthetist, St. George's Hospital, &c.
Cavendish-place, W., April 3rd, 1906.

To the Editors of THE LANCET.

SIRS,—*In reference to the above but more particularly* to Dr. R. A. Lankester's remark that "where it is necessary that above half-a-dozen teeth and stumps should be removed the only other alternative, practically speaking, is ether," I *may remark that on three occasions* recently I have asked the dentist to come to the patient's house and the patient being in bed I have given chloroform in the usual way. No great difficulty has in any of my cases been noticed and ample *time*—a very important matter—has thus been given to the operator. I am, Sirs, yours faithfully,
Streatham, S.W., March 30th, 1906. E. H. WORTH.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY?

To the Editors of THE LANCET.

SIRS,—Will you allow me to reply to some of Mr. B. G. A. Moynihan's kindly criticisms of my recent Hunterian lectures? *I welcome such criticism*, as it cannot but further our knowledge and aid in distinguishing between the wheat and the chaff of the various surgical procedures adopted at the present time. As I anticipated would be the case, Mr. Moynihan takes exception to the opinion expressed in favour of the anterior operation and he maintains that "every argument and all experience show that the posterior operation *as now performed* (the italics are mine) is the better operation." Mr. Moynihan, I take it, here refers to the "no-loop" method. Now, I would point out that in my lectures I expressly stated that my arguments referred to the posterior operation *as usually performed*, and, in London at any rate, the no-loop method is not yet that most commonly adopted. While pointing out that the *no-loop method involves* more manipulation and that should any fault develop at the site of the anastomosis it would be very difficult to remedy it, I avoided any dogmatic statement as to the merits of this operation on the ground that we have not yet sufficient evidence on which to s to get absolutely authentic information on this point, armed with an introduction from the Paris Municipal Council, I called on M. Albert Cuvillier, Président de la Chambre Syndicale des Négociants en Vins de Paris. The President of the Union of the Paris Wine Merchants assured me that the Potin wine, at 2½d. the litre, was excellent and quite pure, nor was there anything in the least degree surprising about this. He then took me to a great wine shed and invited me to taste several wines which, he said, contained from 9½ to 10½ per cent of alcohol and which could be delivered in the cask to grocers and others at such a price as to yield a sufficient profit to the retailer if sold to the public at 2½d. the litre. As for adulteration, it did not pay to falsify such cheap wines, though there was no accounting for the stupid and, in the present circumstances, useless manœuvres to which some people resorted. Of course, there is a good deal of *coupage*, but there is nothing unwholesome in mixing highly coloured wines with wines that have less colour or a strong wine with a weak wine to obtain a medium wine. In any case, there is no difficulty in obtaining very large quantities of absolutely pure wine at from 2d. to 3d. the litre. But would it be possible to sell this wine cheaply enough in England? Even the cheapest wine would travel very well, except, of course, in the height of summer. Going through the figures carefully, which, of course, M. Cuvillier had at hand, he said that a barrel of wine containing 225 litres, or 50 gallons, paying 77 francs 50 centimes duty, would cost when delivered in London 70 centimes a litre. That is equal, as nearly as possible, to 4d. a pint, and it should be possible to retail such wine at about 5d. a pint It would probably contain from 9 to 9 5 per cent of alcohol and therefore some water could be added and the cost of the drink reduced to about 4d. a pint, the same price as the best English ales. This would be a "hygienic drink' but not a cheap drink. There are not many persons who can afford 4d. per meal for their drink. Therefore, if we want to utilise French wines to combat alcoholism in this country, the British Government must follow the example of the French Government and abolish all taxes and duties on "hygienic drinks." Then we could have perfectly pure sound wine at five farthings a pint, or, allowing for a small addition of water, at 1d. a pint.

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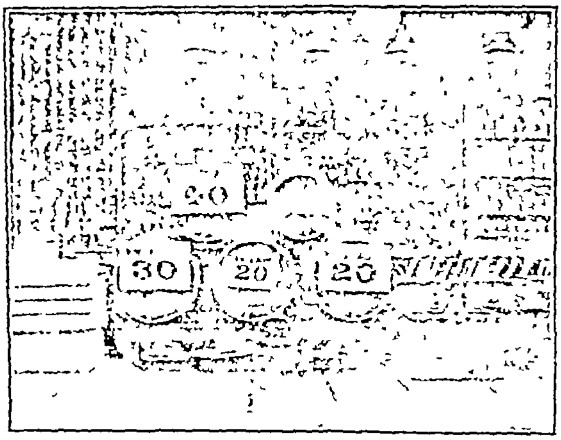
[1] Brit. Med. Jour., Nov. 3rd, 1894, p. 968.

Unfortunately, even if this could be done, the palate of the majority of people in this country has been so utterly spoilt by crude spirits, sophisticated wines, to say nothing of vinegar, patent sauces, strong pickles, and coarse, sodden tea, that when a thoroughly pure and natural wine is given to them they do not like it. Because it is not artificially sweetened they say it is sour, and because injurious spirits have not been added they say it is weak and thin Wine merchants, who are merchants rather than social reformers, have long ago learnt how to manufacture a wine to suit the corrupted British palate. For this purpose dry currants are employed as they contain a great deal of sugar but artificial colouring matter has to be added. This sort of wine is sold wholesale to City and other firms for mixing purposes It is not cheap. Sound genuine wine would not be dearer but it would not suit the ordinary ignorant British purchaser. The usual thing is to take half a barrel of this dry currant English-made wine which costs £1 10*s*. Then a quarter of a barrel of Spanish Rioja or Alicante wine is added which costs 15*s*. Another 15*s* are expended in the purchase of the genuine French wine which gives its name to the unholy mixture. The duty on these foreign wines will amount to £1 10*s*. and there will be 5*s*. for carriage, so that the barrel of 225 litres, or 24 dozen bottles, comes to about £4 15*s*., or 4*s*. the dozen bottles. But to this must be added the price of the bottles, the corks, the metallic capsules, the labels, and the labour, so that altogether the mixture when bottled costs the merchant 6*s* the dozen. This he will sell to the grocer for about 8*s* the dozen and it is retailed to the public as French claret at 1*s* or more a bottle. No wonder that persons who have been accustomed to drink this sort of mixture all their lives fail to appreciate a glass of genuine wine when it is given to them Should a little alcohol of commerce be added then, instead of a "hygienic drink," we have something that might easily be injurious to health. Strong measures should be taken against any such mischievous deception.

But in spite of all impediments and duties perfectly wholesome and pure wine should be as cheap now in London as it was in Paris before the abolition of the *octroi* duties. Though there were deplorable exceptions, still, the Parisians, even with comparatively dear wine, were much more sober than the inhabitants of London. The state of France during the phylloxera, deplorable as it seemed to Frenchmen, would be a great improvement on what to-day exists in England. If wine can be retailed in Paris for 2d. to 3d. the litre it can be sold in London for 8d. to 10d. the litre. At a large grocer's shop situated within a hundred yards or so of the private residence which M. Loubet has occupied since he left the Palais of the Elysées I bought a litre of wine for 2d. Then in testimony of this transaction I photographed the part of the shop where the wine was retailed. This was easy to do as the wine was placed outside the shop on the street pavement. Of course I purchased the cheapest of the wines—namely, the *vin de* [illegible]—which was drawn from the middle barrel. Had I given 3d. I could have had Algerian wine, while for 4d. I could have indulged in Bordeaux wine The litre of wine I carried with me in the heated railway carriage and the cabin of the boat. Then it had a good shaking on the Metropolitan Underground Railway and altogether my litre of wine had a varied experience of different temperatures above and below ground on land and on sea. Nevertheless, when it finally reached THE LANCET Office it was still sound and the flavour was quite palatable. Though this wine only cost 2d. the litre, or about 1¼d. the English pint, it gave perfectly normal results on analysis. It has the same composition as high-class and consequently expensive clarets. In the latter case the purchaser has to pay above all for the bouquet, then for the comparative scarcity or limit of the supply, then again for the storage in cask and afterwards in bottle extending over several years, during which time a certain portion of the wine evaporates, occasionally an accident causes some of it to "turn," and there is always the interest on the capital invested to store and watch or nurse wines. It is necessary to understand why the higher-class wines must be comparatively dear so as to realise how it is that other wines can be extremely cheap The latter have little or no bouquet. They come from vineyards that have acquired no special trade reputation; there is therefore no particular demand for such wines and the production is often greater than the sale. But these cheap wines are in every respect as healthy as the dear wines and therefore well suited to provide "hygienic drinks" to the great mass of the people In the sample purchased for 2d. the litre and brought to London the only point open to criticism is the trace of a slight intensification of colour. Probably this good wine was sold cheaply because it was somewhat deficient in colour, and had it been allowed to remain so it would have been none the worse from the hygienic point of view, though perhaps it might not have sold so readily.

FIG. 1.



A grocer's shop where wine is sold at 20 centimes the litre.

From this grocer's shop I proceeded a little way up the rue Monge and there photographed a small wineshop. Two typical market women, with their provision baskets on the ground, are sitting for rest and a gossip at the little tables placed outside on the street causeway. It may be remarked that the taking rest and refreshment in the open street or

TEMPERANCE LEGISLATION IN FRANCE.

CAN ENGLAND PROFIT BY THE FRENCH EXAMPLE?—THE DIFFICULTY OF OBTAINING "HYGIENIC DRINKS."—PURE WINE AT FIVE FARTHINGS THE PINT IN FRANCE AND FIVEPENCE IN ENGLAND.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

PART III.[1]

IT has been necessary to insist at length on what has occurred in Paris, because in no other part of the country has the abolition of *octroi* dues on "hygienic drinks" involved anything like so great a sacrifice. The *Bulletin de Statistique*, published in May, 1900, by the Minister of Finance, estimates the gross receipts of all the *octrois* in France at £13,327,700, from which are deducted £1,200,000 as cost of collection. Out of this the *octroi* of Paris takes about half—namely, £6,256,420. The *octroi* duties on wines, beer, and cider throughout France amounted to £3,466,440 and of this amount two-thirds were paid at the Paris *octrois*, where the duty on "hygienic drinks" used to be so much higher than in any other part of the country. Apart, however, from the action of the municipalities it is necessary to take into consideration the sacrifices made by the State in the cause of temperance. From the fiscal point of view there were three categories: first, wine, cider, perry, and mead; secondly, spirits, brandies, liqueurs, absinthes, and other alcoholic liquids; and thirdly, beer. The first category had to pay a tax for "the right of circulation" from one to two francs the hectolitre of wine according to the department from which the wine came and the place to which it was to be sent. For cider, perry, and mead this tax was uniformly 80 centimes. Then the right to sell retail was taxed by the State *ad valorem* 12½ per cent. of the sale price. Spirits paid a general tax of 156 francs 25 centimes per hectolitre of pure alcohol. On beer a brewing tax was imposed of 3 francs 75 centimes per hectolitre of strong beer and 1 franc 25 centimes per hectolitre of thin beer. Under the new *régime* the State, as well as the municipality, sacrifices all taxation on "hygienic drinks" except the very trivial charge made for the "right to circulate." That is to say, that on wine not drunk where it is made must be paid 1 franc 50 centimes (or 1*s*. 3*d*.) per hectolitre (or 22 gallons) for permission to send it to other parts of the country. For cider, perry, and mead this tax is only 8*d*. for 22 gallons. For brewing the tax has been reduced to 25 centimes per degree of alcohol per hectolitre, which in practice amounts to a tax of about 1*s*. for every 22 gallons. On the other hand, the State increased the general tax on spirits from 156 francs 25 centimes to 222 francs the hectolitre. In rural and all other districts this tax on spirits must be paid to the State and if spirits are sent to towns the tax is increased from 7 francs 50 centimes to 30 francs the hectolitre. In Paris, where over and above these State charges the *octroi* dues have been doubled, the total of the State and local taxes on spirits amounts to no less than 415 francs or £16 12*s*. the hectolitre or 22 gallons. In England the tax on spirits is £13 and in Russia £20 the hectolitre. By increasing the tax on spirits the annual revenues of the State have been augmented to the extent of about £400,000 and those of the city of Paris, though increased, were, as already related, £280,000 less than they would have been had the inhabitants continued to drink as much spirits as before. To the State the loss on the almost complete removal of the taxation on "hygienic drinks" has been £1,404,408, which, though considerable, is less than that experienced by the city of Paris. The State loss on cider and beer does not amount to more than about £28,000. The first year after the application of the new system it was calculated that by the abolition of the taxes on "hygienic drinks" the State lost in revenue £1,431,064. This is a good price to pay so that the people may have wholesome wine at cheap rates but it is a smaller sacrifice than that incurred by the city of Paris. At the lowest computation—that is, counting economies made in the cost of collecting and adding to this other offsets—the net loss was set down at £1,707,388. Thus, and at the lowest estimate, the city of Paris and the French nation sacrificed £3,128,452 during the first year that these reforms were applied. This is the sum paid during the course of one year so that the French people might obtain the most plentiful supply possible of "hygienic drinks" almost entirely free from taxation, whether State or local.

If the *entente municipale*, of which we have heard so much of late, is to mean anything more than a demonstration of political sympathy between the capitals of the two nations concerned, surely this bold legislative and municipal attempt to deal with the temperance question should be carefully considered on this side of the Channel. Naturally, it will suggest the question whether it is possible to place "hygienic drinks" within the reach of the British public. It is true that we are not a wine-growing country, but beer is recognised as a "hygienic drink" if properly made. Already in the House of Commons a Pure Beer Bill was recently introduced stipulating that not less than 85 per cent. of the saccharine-yielding material employed shall be barley malt, without any addition other than hops, yeast, and water. The Bill was rejected but other similar efforts will be made. If ultimately some such law is rigorously applied it might then be safe to conclude that English-made beer had become a "hygienic drink"; but would it be a cheap drink? Mr. Scott Wood, a director of Messrs. M. B. Foster and Sons, is reported by the *Tribune* to have stated to its representative that such a provision would not affect Bass's ale, "but many brewers of the cheaper table ales, 'the 2*s*. 6*d*. ales,' employ rice, grain (i.e., maize), and sugar. These brewers would find much of their plant useless under the Bill and the 2*s*. 6*d*. ales could not be profitably produced."

Of course, Munich beer, protected by laws more than 500 years old which render it a criminal offence to make beer with anything else whatsoever except barley-malt, hops, yeast, and water, may be considered an "hygienic drink." This was set forth by our investigations carried out on the spot and the minute analyses of the beer.[2] Further, Munich beer is cheap enough—in Munich. But what with duty and the cost of transport in ice it is not retailed in London at less than 5*d*. or 6*d*. the half litre and it does not contain half as much alcohol as sound French wines which can be bought in London for the same price—namely, 10*d*. to 1*s*. the litre. On the other hand, the ordinary Englishman, especially if he belongs to the working-classes, would probably take more willingly to Munich beer than to genuine French *vin ordinaire* mixed at table with about 50 per cent. of fresh water. Indeed, the idea of mixing wine with water is quite foreign to the English mind; yet it is the universal custom in France, and what a pleasant thirst quencher this provides in the hot, dry days of summer. Beer brewed in this country should be pure and cheap and no doubt such beers exist. At the same time and in the absence of any law beer is often made with glucose, which, it will be remembered, has been found to contain arsenic. The purchaser does not know what he is drinking; there is no legal guarantee of wholesomeness. The same may be said of many other countries and the one State that stands before the world as a model in this respect is Bavaria. That is why Munich beer comes to the front when mention is made of "hygienic drinks."

Now, however, that more wine is produced in France than can be sold, the question arises whether wine might not serve the purpose of a "hygienic drink" in England as well as in France. In considering this matter it will be found that there are not many people on this side of the Channel who know how very cheap wine has become. Some few years ago, and before the abolition of the *octroi* on wine, there was a specially abundant vintage. Consequently wine trains were despatched to the outskirts of Paris and there shunted on sidings. The people were invited to come with all the pitchers and pots and pans that they could find and to buy wine contained in the great iron tanks carried by the train. The price was 15 centimes the litre—that is, less than a penny a pint. Now to-day that the *octroi* on wine is abolished, and even when the vintages are not so very plentiful, wine can be purchased within the walls of Paris at 20 centimes or 2*d*. the litre. This is certainly the lowest price and the majority of people pay more. But a well-known grocer, whose shops are in all parts of Paris and who is especially patronised by the British colony, Felix Potin, offers in his price list red wine "guaranteed pure" at 25 centimes the litre. This firm claims to sell 60,000 litres or bottles of wine per day. So great interest in the problem. Both authorities were agreed upon the importance of rendering the houses in the central parts of the city as habitable as possible, but Dr. Robertson appears to look upon this matter as only a temporary expedient to tide over the difficulty until the time when suburban extension will relieve the present central congestion. What can be done, and is being done, was shown by Mr. Nettlefold by a series of lantern slides, and the changes for the better as regards light and air, which can be obtained in blocked courts by the removal of obstructing blocks and by re-arrangement, are most remarkable, whilst the reduction of the death-rate in the places already dealt with is most convincing as regards the value of the work on the general health of the city. The difficulties in the way of alterations and reforms are the rights of the property owners, the necessarily increased rental which the improved buildings command, and the dirty and careless habits of many of the lowest classes who inhabit the poorest houses. Gradually, however, all these difficulties are being overcome in the central areas, but if care is not taken and if the city does not obtain power to control and to supervise building in the suburbs it is most probable that conditions will arise there in the future which will be quite as bad as those now existing in the central areas. There can be no doubt that as regards the control of suburban building we are by no means so advanced as the cities and towns of Germany. Nor do we take care that sufficient space is retained for breathing purposes. With carefully thought out plans the necessary arrangement of the new buildings and the proper amount of vacant space could be secured at comparatively little cost, as Mr. Nettlefold pointed out, if arrangements are made before the property is ripe for building, but, unfortunately, as a rule we think little or nothing about the matter until the price of the land becomes prohibitive.

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[1] Parts I. and II. were published in THE LANCET of March 10th (p. 709) and 24th (p. 865), 1906, respectively.

[2] See THE LANCET, Feb. 16th, 1895.

Child Life on Canals.

Hitherto very little attention has been paid to the children reared upon canal boats. Their health and welfare, however, are, or should be, of considerable interest to health and education committees. The Acts and regulations regarding canal boats are strictly enforced, yet the conditions of life and education are distinctly deficient when contrasted with those enjoyed by other sections of the community. This has been recently demonstrated so far as the boats associated with Birmingham are concerned, and it is to be presumed that the conditions are similar in other places, through an investigation carried out by Dr. J. D McCrindle, the assistant medical officer of health, and by Mr. J. H. Broscomb, district inspector of schools. The living quarters in the boats are necessarily confined, but in spite of the fact that the air space is only 70 cubic feet per person as contrasted with 225 required in lodging houses, the physique and general health of the children examined did not appear to have suffered as contrasted with children of the same class in the poorer parts of the town. On the other hand, their education was deplorably deficient. Only 3 per cent. could read fairly well. Many did not know the value of any but bronze coins, few could write, and their knowledge of numbers was very small. The few that had any educational equipment lived entirely ashore for a continuous period and apparently, if it is thought advisable that this class should be further educated, it will be necessary to obtain power to make the parents let the children live ashore for a certain period. Under present conditions, as the annual number of attendances the canal boat children make at school shows, it is quite impossible for them to acquire that amount of knowledge which it is generally thought every child is entitled to. Dr. McCrindle found it extremely difficult to get information regarding the deaths of children. In 19 boats no information at all could be obtained; from the other 40 which he examined he ascertained that apparently 70 per cent. survive and that the deaths which occur are due to diarrhœa and wasting diseases.

April 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Ladies' Charity and Lying-in Hospital.

THE number of patients attended in the outdoor department last year was 1847, as against 1900 in the year 1904. The number of patients attended in the hospital was 322, as against 281 in the previous year. 11 of these were single girls (first cases only being received) admitted by the ladies' committee for treatment after investigation had shown them to be deserving of consideration. In the school of midwifery 63 pupils were trained during the year. 21 medical students took their midwifery practice with the charity during the year in accordance with arrangements with the University of Liverpool. This showed a considerable increase and the board was pleased to note that its arrangements were meeting the needs of Liverpool students.

University of Liverpool: Graduation Ceremony; University Prizes.

The following students in the faculty of medicine were admitted on March 27th by the Vice-Chancellor to degrees: Doctor of Medicine, Hubert Gordon Thompson; Bachelor of Medicine and Bachelor of Surgery, Austin William Byrne and James M'Clellan. The following awards are also announced: University Scholarship in Medicine, Thomas William Jones; Derby exhibition in clinical surgery, Robert A. Hendry; Torr gold medal for anatomy, Ethel M. Baker; Holt medal for physiology, Thomas William Jones; and Gee prize for diseases of children, George C. Barnes.

The Health Committee and Chicken-pox.

In consequence of the cessation of cases of small-pox in Liverpool the health committee has issued a notice to the local members of the profession that chicken-pox has been removed from the schedule of notifiable diseases.

Donation to the David Lewis Northern Hospital and the Royal Southern Hospital.

The treasurers of the David Lewis Northern Hospital and the Royal Southern Hospital acknowledge with thanks the receipt of £2350 each from Mr. John Elliott (the trustee), being the proportion of the estate of the late Mr. C. H. Lear assigned to the two hospitals for investment.

Extension of Warrington Infirmary.

Plans have been prepared for the erection of a new pavilion with three wards to accommodate 66 extra beds. The scheme, which was adopted by the governors, will cost between £10,000 and £12,000. Mr. W. Long of Grappenhall has sent a donation of £1000 towards the extension.

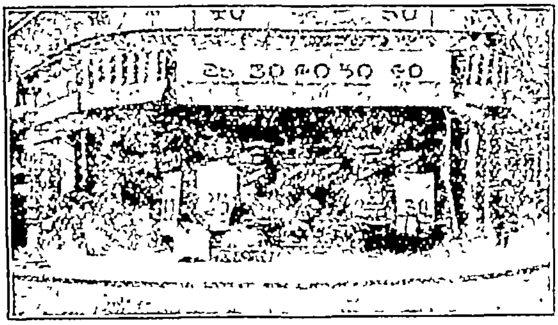
St. Helens Health Committee and Consumptive Patients: Decision of the Committee.

At a meeting of the St. Helens health committee held on March 23th a lengthy report was submitted by Dr. J. J. Buchan, the medical officer of health, on the inquiries he had made as to the manner of isolating consumptive patients in the vacant wards of the fever hospitals at Manchester, Edinburgh, and Brighton, reference to which was made in THE LANCET of March 24th, p. 863. At Manchester the patients were being treated in cottages near the hospital. Dr. Buchan gave details of cases recently reported to him which urgently called for isolation. The chairman moved that the medical officer of health be empowered to admit cases to the sanatorium on the same lines as fever patients were admitted and that all cases be reconsidered every month, when it could be determined whether to retain or to discharge them. The motion was adopted. The question was mooted whether cases should be admitted to the hospital in advanced or early stages. Dr. Buchan considered that he should not be tied to any hard-and-fast rule. Mr. H. B. Bates considered that the advanced cases, being the most infectious, should have the preference in order to prevent the spread of infection. The matter can be safely left to the medical officer's judgment.

Blackpool Sanatorium: Reopening after Enlargement.

The Blackpool Sanatorium was reopened on March 26th after enlargements which have cost about £18,500. Though the institution is still incomplete there is now accommodation for 54 beds and eight cots. When the whole scheme is completed, including another large block for 22 beds and a discharge block and porter's lodge, estimated to cost about £6500 more, the total cost, including land, buildings, furnishing, &c., will have been about £33,900, the cost per bed working out at about £424. There will then be room for 76 beds and eight cots. Dr. F. J. H. Coutts, the medical officer, in his comments on the extensions, says that they will very materially improve the conditions as to hospital treatment of infectious diseases. It will enable them to give a much larger air space for each patient than had hitherto been possible. He adds that it has been a matter behind glass windows indoors but still in view of all persons passing in the street, is a great guarantee for the maintenance of decent behaviour and sobriety. Here it will be seen by the posters and other announcements that wine is retailed at 25 centimes or 2½*d.* the litre and old wine (*vin vieux*) at 3*d.* the litre. Above there are announcements of various wines from 2½*d.* to 5*d* the litre.

FIG. 2.



Wine shop and café, rue Monge.

In London the cheapest wine that I have been able to find is sold at 7½*d.* the litre. On analysis this wine does not appear to have been imported. In all probability it has been made in London, possibly from dried currants and also from the juice of grapes, pasteurised and then imported in an unfermented condition, so that there should be no duty charged.

Finally, I endeavoured to obtain not the cheapest but a really sound and genuine wine. For this purpose I sought out a French grocer, a refugee of the Paris Commune, whose shop, since the dark days of 1871, has been a centre for French political exiles. These poor men and women have for the greater part been accustomed from their childhood to the cheap natural wines that are such effective factors in maintaining the sobriety for which the wine-drinking sections of the French people have acquired a just and honourable reputation. In a quest such as mine it was absolutely essential to avoid dealers having English customers and an English reputation. A wine that has a ready sale among ordinary English purchasers must be looked upon with the gravest suspicion. The thing is to find out where poor French people buy their wine; and even this does not suffice, for they must be from the centre or south of France. Acting upon this principle I found two wines from the Bordeaux districts of Blaye and Bourge, where the cheaper wines or *vins ordinaires* of the Bordeaux *cru* are made. The former has a more emphatic flavour, while the latter is more delicate. Both leave in the mouth that clean fresh sensation typical of a light natural wine. There is nothing thick, treacle like, heavy, or rough about such wines. It is the difference between muddy water and clear fresh water from a spring. On analysis the sample of the Bourge wine proved to be a genuine wine. In regard to the colour, the proportion of alcohol, which is 12·49 per cent. by volume, the nitrogenous substances, tannin, sugar, and the other ingredients all go to show that it is a pure, natural, wholesome wine. Here, then, is all that can be desired from the health point of view, if only the price were such as to place it within reach of the masses. As matters now stand it can only claim to be a "hygienic drink" suitable for the more prosperous artisan and the lower middle-classes. It is still too dear for the labouring and very poor classes who supply, in spite of their poverty, so large a proportion of the victims of alcoholism. But this wine would be in reach even of those classes if in England, as in France, all duties were removed from "hygienic drinks." At present this wine costs 10½*d.* the litre. This is equal to 6*d.* the English pint. But seeing that the proportion of alcohol is rather high this wine might, for drinking at meals, stand an addition of a quarter to a third of its volume of water and thus a very wholesome and pleasant drink could be obtained at 4*d.* or 4½*d.* the pint. Of course, these are retail prices, the wine being bought a litre at a time over the counter. Naturally a wholesale transaction would be cheaper.

Thus it will be seen that though the duty paid on wine is often much in excess of the price of the wine, still wine is now so cheap that it is available even in this country at a moderate cost. Therefore the temperance experiment which the French Government and municipalities have made on so extensive a scale could be attempted in England. Those sections of the community that are not absolutely poverty-stricken and are sufficiently intelligent to profit by the great object lesson we are now receiving from the other side of the Channel might endeavour to solve the temperance problem on these lines. The *entente cordiale* and the *entente municipale* will not be vain words if they serve to promote in England a knowledge of the fact that the evils of drink arise largely from the unwholesome nature of the drink. Given "hygienic drinks" these evils would be reduced to a minimum as is actually the case in those favoured wine-growing countries where pure wine is so abundant that dangerous spirits and unwholesome beverages are rarely consumed.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday.

THE annual report of the Birmingham Hospital Saturday Committee is a record of good work well done. It proves conclusively that the scheme has secured the goodwill and coöperation of all classes in the city. The working classes are particularly to be congratulated upon the aid which they have given to an institution which does so much for their members in times of trouble and distress. The collections for the year amounted to £18.722, or £200 more than any previous yearly collection. The contributors have increased in number, more patients have been sent to convalescent homes, and the expense per patient has been reduced. Birmingham has every cause to be proud both of its Hospital Saturday Committee and of the amount that the committee has collected for the prosecution of the good work in which it is engaged.

The City Analyst's Report.

On the whole the report of the city analyst for the past year is satisfactory. There appears to have been a general diminution in the adulteration of foods except butter. Whether this is due to an increase of morality or a greater fear of punishment does not matter to the general public, who will be chiefly interested to know that the greater part of their food, and their milk in particular, is less tampered with than in the past. The fact that butter has been dear seems to have increased the tendency to fraud and of the 239 samples taken 23 were adulterated. In the ordinary course of events the added adulterants are frequently preservatives but 10·5 per cent. of the samples taken last year were adulterated in other ways and for the purpose of increasing the gain of the seller. An extremely interesting part of the report refers to the new water-supply. Our old supply contained from 30 to 40 parts per 100,000 of solid matter but the Welsh water only contains from 5·8 to 7·2 parts, of which about half is hardness. There was for a time some fear that the soft water would dissolve a dangerous amount of lead from the supply pipes. A careful investigation has shown that when the water has been standing in the pipes all night, and especially if the pipes are new, small quantities of lead can be detected, but the analyst is satisfied that there is no danger to health if the first quart or two drawn in the morning are allowed to run away. It should not be forgotten, however, that galvanised iron kettles yield a dangerous amount of zinc to some waters and that if kettles lined with tin are used care must be taken that the tin contains no lead, otherwise poisoning may result. Latterly a small amount of chalk has been added to the water and the hardness of the water has thus been slightly increased, but it still remains very soft and its colour has been less brown. It is interesting to note in association with the softness of the water that one of our public companies has acknowledged a saving of £100 a year on its soap expenses since the new water-supply was established.

The Housing Problem.

Within a fortnight we have had two interesting and extremely instructive lectures on the housing question, one delivered at the University by Dr. J. Robertson, the medical officer of health, and the other given to a very large audience at the town hall by Mr. J. S. Nettlefold, a member of the housing committee of the city council, who has taken the purpose. Dr. Cullen seconded the recommendations and pointed out that 80 per cent. of the deaths had occurred in houses under £20 rental and held that their plain and pressing duty was to provide the accommodation recommended. Dr. Robertson also supported the proposal. Some criticism and opposition were offered by several of the members but were ultimately withdrawn and the recommendations of the public health committee were unanimously agreed to.

Edinburgh Church of Scotland Deaconess Hospital.

At the eleventh annual meeting of the supporters and friends of this hospital it was stated that during the past year there had been 415 patients received, as compared with 341 the previous year. The death-rate had been 4·7 per cent. The district nurses had visited 594 cases. The expenditure for the year was £1808, making the expenditure per bed £57 6s. 8d. The income was, for the first time, not equal to the expenditure. In supporting the report Dr. J. Playfair, President of the Royal College of Physicians of Edinburgh, spoke of the good work which the hospital was doing and thought that compared with the cost of other hospitals they were getting good value for their money.

Professor Sims Woodhead in Glasgow.

Recently Professor G. Sims Woodhead visited Glasgow in his capacity as President of the Temperance Collegiate Association and addressed several large meetings on the subject of Alcohol and Disease. In his honour a banquet was given by the Lord Provost and health committee of the city, a large proportion of those present being medical men.

Vaccination in the Eye.

An unfortunate accident has happened to a medical man in practice in Greenock. While breaking a tube of vaccine lymph a splinter of glass entered his eye which in a few days exhibited the usual signs of successful vaccination. It is probable that the resulting impairment of vision would have been more serious but for the fact of his having been revaccinated two years ago.

Lane Lecturer at San Francisco.

Dr. J. C. McVail, the medical officer of health of the counties of Dumbarton and Stirling, has received and accepted an invitation to be the next Lane lecturer in the Cooper Medical College, San Francisco. This lectureship was founded some ten years ago, the first lecturer being Sir William Macewen, and since then several eminent British medical men have been similarly honoured. The course consists of ten lectures in the month of August and they are largely attended not only by the medical men of San Francisco but also by the general public. Dr. McVail's subject will be "Hygiene." The county councils of Stirling and Dumbarton have readily consented to allow Dr. McVail the necessary leave of absence.

April 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of William Logan, M.D. St. And., M.R.C.S. Eng.

I REGRET to report the death of Dr. W. Logan which took place at his residence Knocknagulla, Whitehead, co. Antrim, on March 25th, in his seventy-first year. The deceased gentleman was a native of Straidnahanna, near Carrickfergus. In his early life he studied at Queen's College, Belfast, for the medical profession and graduated in 1862 M.D. of St. Andrews; in the same year he became M.R.C.S. Eng. For many years he practised in Belfast and afterwards in Yorkshire, where his arduous duties so undermined his health that he had to retire from practice and to return to Ireland, where he lived near Whitehead. Dr. Logan is survived by his widow and he leaves two sons and a daughter, all three being members of the medical profession.

Royal Victoria Hospital, Belfast.

At the annual meeting of the friends of this institution held on March 28th a very satisfactory report and financial statement were submitted. As to patients, 2638 new intern and 25 917 extern cases were treated, and 1117 surgical operations were performed with a 4·4 per cent. mortality. Patients are arriving in increasing numbers from all parts of the north of Ireland for surgical treatment. Financially, the net receipts from all sources were £14,877 11s. 7d. and the disbursements of all kinds amounted to £14,735 0s. 1d., leaving a small surplus as balance of £142 11s. 6d. The chairman (Mr. R. H. Reade, D.L.) spoke of the singular comfort and cheerfulness of the wards and of the plenum system of ventilation, which had answered its purpose admirably. By it "they had," he said, "been able to obtain a fresh current of air without any draughts, the temperature had been maintained at the desired point, and, further, there was an advantage not anticipated—namely, that they had been absolutely free from flies in the summer-time." It is interesting to know that the cost of the patients has been only 2s. 2½d. per day during the past year, or 6d. less than in the preceding one; in 1903 the time spent in hospital was, on an average, 26 days; in 1905 it was 24½ days. Dr. H. L. McKisack (secretary of the medical staff), on behalf of his colleagues, said that they had every reason to be satisfied with the administration of the hospital. They hoped the additional four wards would soon be opened.

Tughan v. Darnell.

A joint meeting of the Ulster branch of the British Medical Association and the Ulster Medical Society was held in the Medical Institute, Belfast, on March 29th. Dr. W. Calwell occupied the chair and there was a very large attendance of the members of the medical profession. Sincere sympathy was expressed in reference to the result of the action with Mr. C. K. Darnell. After a long discussion it was decided to take the opinion of counsel as to the effect of the law on the medical profession as it was interpreted by the judge in the case, Chief Baron Palles. I understand that a meeting of the profession will be called later; in the meantime notice of appeal has been given.

Action by a Nurse against a Medical Man.

Mrs. Harvey, a midwife, brought an action for slander against Mr. Richard Dalton, a physician practising in Cork. The case came on for hearing on March 24th before the Lord Chief Justice, and the court was crowded. Mrs. Harvey usually takes what are called "running cases"—that is to say, she might attend several women in labour in the one week. She attended a Mrs. Donovan and some time afterwards Mr. Dalton was called in to see the baby. The nurse stated that she was present on the occasion of his visit and that he informed her that the child was "rotten with syphilis." In further evidence she said that having heard rumours that she had conveyed contagion from a case of puerperal fever to the infant she, accompanied by her mother who is also a midwife, called on Mr. Dalton who then told them that the child was suffering from cellulitis and they asked him why he had changed his diagnosis in the meantime. Describing the condition of the child on the occasion of Mr. Dalton's first visit she stated that the umbilicus was quite healed. Mr. Dalton in his evidence denied positively that he had ever stated the child had syphilis and added that it was from the nurse herself the suggestion came; that she had said to him that the illness of the child was due to the condition of the father's blood. He swore that he never treated the child for syphilis, as it was from omphalitis and spreading cellulitis that the little patient was suffering and that he had registered the death as being due to spreading cellulitis. In the course of further evidence it appeared that Mrs. Harvey, some days after she had delivered Mrs. Donovan, attended a Mrs. O'Neill who developed puerperal fever, was removed to the workhouse hospital, and died there. The nurse swore that when in attendance on Mrs. O'Neill she was not aware that she was suffering from puerperal fever, that she delivered several other women soon afterwards, and that all of them recovered without exhibiting any abnormal symptoms. It further came out in evidence that the father of the child Donovan, who was very indignant on hearing the rumour that he had transmitted syphilis to his child, put the sanitary authorities in motion, with the result that the corporation van arrived at the nurse's residence for the purpose of removing her clothes for disinfection. The case was at hearing during the whole day and the judge, when addressing the jury, charged markedly in favour of the plaintiff. The jury retired and after about an hour's deliberation brought in a verdict for the defendant and judgment was marked accordingly. As the evidence was so contradictory many considered that the task of the jury was a difficult one, but it now turns out that they did not discuss the question of veracity, as they came to the conclusion that the communication made by the defendant to the plaintiff in the presence of her mother was privileged. It is interesting to note that the judge in the of great regret to him during the past few years that over and over again he had to refuse to take in cases of diphtheria, frequently with the result of extension cases occurring. The possibility of isolating doubtful cases for a few days would also be a great gain, and there would also be the advantage of isolating cases of mixed infection, the want of which had often caused much embarrassment in the past. The formal ceremony of inauguration was performed by Alderman T. H. Smith, the chairman of the health committee.

April 3rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Typhoid Fever at Bridgend.

TYPHOID fever has been endemic in Bridgend for many years past and although the medical officer of health (Mr. Wyndham Randall) has frequently urged upon the urban district council the importance of appointing a sanitary inspector who should give his whole time to the duties of his office the council for a long time was satisfied with adding the inspector's duties to those of the town surveyor. After the serious outbreak of last year, however, an officer was appointed as assistant inspector and his principal duties were to be the testing of the house drains in the town. By means of the smoke test he found during 12 months 224 defective drains and it might have been supposed that the discovery alone of this large number would have been sufficient reason for continuing his services. It is to be regretted, therefore, that the district council should have decided to dispense with the services of this special officer and to revert to the former system combining the offices of surveyor and inspector of nuisances. It is true that instructions have been given to the surveyor to devote two days each week to the work of testing house drains, but even then it must take three years to carry out the same amount of work which has been performed in the past 12 months by a man wholly employed in it. It is due to the inhabitants of the town to say that the retrograde action of the district council is not supported by the local press or by the medical profession. It is pleasing too to find that the local branch of the Amalgamated Society of Railway Servants has strongly urged upon the council the desirability of continuing the systematic inspections of the past year.

Health Report of Bath.

The annual report of the medical officer of health of Bath (Dr. W. H. Symons) is of interest as showing a steady decline in the birth-rate during the past 40 years. In 1867 it was 25·7 per 1000 of the population and in 1905 it was 19·7 per 1000. But Dr. Symons very properly points out that in comparing the birth-rate in Bath with that of the rest of England and Wales it is necessary to make certain corrections, for in Bath there are only 95 young married women per 1000 of the population, while in the rest of the country there are 117 per 1000. The corrected birth-rate in Bath in 1905 was thus 24·2 per 1000. After making this correction the fall in the Bath birth-rate is seen to anticipate the fall in the birth-rate in England and Wales by about ten years. In 1881 the corrected birth-rate in Bath was about equal to that recorded in England and Wales in 1891 and the rate for Bath as corrected was 26·7 in 1895, the rate in rural England in 1905 being 26·8, and in the whole country 27·2 per 1000. The sanitary department of the city of Bath has been much improved under Dr. Symons's administration. One of the most important innovations due to his initiative is the method of receiving notice of and tabulating deaths. Copies of death certificates are sent to him on cards provided for the purpose within 24 hours of registration, so that prompt inquiry may be made and rooms disinfected before they are taken into use after deaths have occurred. A separate card is used for each death, so that tabulation is facilitated with a minimum of clerical work. The concluding remarks in this report ought to be brought under the notice of those who are prone to criticise the work of sanitary officials. The duties of a medical officer of health, says Dr. Symons, bring him into conflict with many private interests and great responsibility attaches to most of his actions. The tendency is to give such an officer the maximum of responsibility with the minimum of control; to be successful he must be quick to think out a problem to the end but slow to speak. Success in preventing disease necessarily attracts no notice, but a failure, a single false step, a thoughtless remark, or perhaps a mishap which he could not prevent, is patent to everyone.

The Colston Society.

The annual banquet of the Colston Society in connexion with University College, Bristol, was held on March 30th. The President (Mr. J. Arrowsmith) announced that he had received promises of £30,000 towards £150,000 required for the foundation of a Bristol university. The guests of the evening were the American Ambassador (the Hon. Whitelaw Reid) and the Right Hon. Augustine Birrell. Lord Strathcona, who was unable to be present, sent a cheque for £500 to the funds of the society. Sir William Selby Church, the new President, in a brief speech acknowledged his election.

Shell-fish and Enteric Fever.

Principally at the instigation of the Torquay corporation the Devon county council has decided to apply for powers to deal with the river Teign under the Rivers Pollution Prevention Act on the ground that cases of enteric fever have been traced to the consumption of sewage-contaminated cockles taken from the estuary of the river. The Teignmouth urban council and Newton Abbot rural district council have decided to petition the Local Government Board not to comply with the application owing to the heavy expenditure that would be required to prevent the discharge of the sewage of Bishopsteignton, Teignmouth, and other places into the river.

The Yeovil Board of Guardians and Vaccination.

At a meeting of the Yeovil board of guardians held on March 24th, a member submitted a motion in favour of the abolition of compulsory vaccination, remarking that the present law was absolutely without justification and the practice of vaccination cruel and loathsome. In opposing the motion a member stated that the medical profession were practically all in favour of vaccination which showed that it was manifestly of advantage to the country. The chairman said that if there was nothing in vaccination it was surprising that foreign nations should have adopted it. There was a long discussion and on a division three voted for the motion and 29 against.

April 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Town Council and Pulmonary Tuberculosis.

A SPECIAL meeting of the Edinburgh town council was held on March 27th for the purpose of considering a report by the public health committee recommending that temporary accommodation should be provided at the city hospital for 50 advanced cases of pulmonary tuberculosis. Mr. Gibson, the convener of the committee, submitted the report. He said that the committee had come to the conclusion that there was a plain duty incumbent upon the town council to devise means to deal with cases in the last stages of the disease which were to be found in houses of inadequate accommodation. The cost of providing for 50 such cases was estimated at £1000 per annum. The result of such action as was advised would be the immediate abstraction of 50 sources of dangerous infection. The experience of a similar institution in Paris was that the average life of such patients was three months and on that basis they would deal with 400 cases per annum, but if only half that number was dealt with there would be a large reduction of dangerous risk. Since 1898 the public health committee had been:—1. Inquiring into the mortality from tuberculosis. 2. Distributing leaflets directing attention to the need of fresh air, to the necessity of destroying the expectoration from infected persons, to the thorough disinfection of bedding and body clothes, to the fixing of notices on lamp-posts requesting people not to spit on the pavements, and to the notification of cases. The local authority was now invited to approve of the proposal that provision should be made in the city hospital for the most dangerous cases. Last year there had been about 500 deaths from tuberculosis and in only 210 had the offer of the committee to disinfect the houses been taken advantage of. As regarded the notification of the disease, he thought that at no distant date the council would accept compulsory notification as a necessity and as a distinct advantage. He proposed that ward 5 in the city hospital and one cottage should be used for

Diseases held its annual meeting on March 11th in Berlin, Professor Neisser of Breslau being in the chair. Dr. Blaschko, the general secretary, reported that the association had now 5000 members and included 22 local committees; 1,500,000 copies of the pamphlets or leaflets published by the association had been distributed to the public. He also said that the newspapers now permitted subjects of this kind to be discussed in their columns and that there were only a few places where the work of the association was opposed by false prudery. After the inaugural business had been transacted a question relative to clubs under the Workmen's Insurance Laws was discussed. The principal sick clubs had on several occasions sent delegates to hygienic congresses, but one of the law courts had recently decided that it was illegal for these clubs to use their funds in paying the expenses of the delegates. As it is highly desirable from a hygienic point of view that representatives of the working classes should continue to take part in this and other hygienic congresses a motion was adopted requesting the Government to amend the legislation on that subject. The association then discussed the statistics of venereal diseases and adopted a motion to the effect that a collective investigation concerning the spread of these diseases should be carried out under the control of the Government medical department. Medical practitioners and the hospitals would be invited to take part in the investigation which would, of course, be strictly confidential. Dr. Blaschko then drew the attention of the association to a point raised in the Prussian Diet where Dr. Münsterberg, a medical member of the House, had adverted to the laws concerning prostitution. He had suggested the appointment of an extra parliamentary commission for the purpose of discussing this question and recommending alterations of the laws at present in force which were quite inefficacious. The Minister of the Interior had agreed with Dr. Münsterberg and Dr. Blaschko wished that the association should also be invited to send delegates to the Government commission. He said that two parties of essentially divergent views—namely, those who were opposed to any control of prostitution and those who were in favour of such a control—were both represented in the association and that they had been able to coöperate notwithstanding their differences of opinion. A motion, proposed by Dr. Blaschko, was adopted to the effect that the association desired an amendment of the laws and regulations concerning prostitution and that it was advisable that delegates of the association, men and women, should take part in the work of the extra-parliamentary commission appointed by the Government.

April 2nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Normal School for Girls in Cairo.

TEN years ago the census taken in Egypt showed that of the female population more than 99 per cent. were unable to read or to write. Since then encouragement has been given to parents to send their girls as well as boys to the elementary schools called "kuttab" and this they seem quite willing to do The normal school, now in its third year, is for 40 boarders, all Mohammedans of the poorer class, who during two years are trained to become teachers of the kuttabs for girls They vary in age from 12 to 18 years and are taught by a competent Corsican lady and several native assistants. On being drafted from the kuttabs they already know the rudiments of reading and writing Arabic and can recite by heart passages from the Koran. They are made proficient in these subjects and are also taught arithmetic, geography, history, gardening, cooking, laundry work, and ironing. They learn the theory and practice of teaching by means of a special kuttab of 90 girls, aged from six to ten years, who go every day to the normal school to be taught. They are given a free lunch, consisting of bread, lentils, and vegetables, with meat twice a week, all cooked by the pupil teachers. A playground is attached to the school, where skipping seems to be the favourite pastime. At the end of the two years' training the girls undergo an examination and are appointed as teachers or assistant teachers in the kuttabs under the supervision of the education department. This is the [illegible] that any serious effort has been made in Egypt to give instruction to the girls of the poorer folk. I was much [illegible] general air of health and cleanliness among the teachers and the taught, who are visited daily by Miss C. B. S. Amos, M.B. Lond., who has lately been appointed medical inspector of all the girls' schools belonging to the Egyptian Government. The building in which this school is situated in Bulak awakens memories in an old resident. 30 years ago it was the only lunatic asylum in Egypt, notorious for ill-treatment, starvation, heavy chains, and flogging. Then when the hapless lunatics had been moved to their present quarters in the desert it became a prison for females and a temporary nucleus of malaria. Then it was renovated, the breeding places of mosquitoes were destroyed, and it was opened as the first reformatory for boys. When the law courts discovered its existence and filled it with young thieves it had again to be abandoned and is now the happy home of many bright eyed maidens. 13 of the existing teachers in the elementary schools have been trained in this normal school.

Central Sanitary Board for the Soudan.

Sir R. Wingate, the Governor-General of the Soudan, approved last October the establishment of a new board to advise the Soudan Government on general medical and sanitary questions, including the treatment of epidemics. The president is Colonel G. D. Hunter, D.S.O., R.A.M.C., and the members are eight in number, including the director of the Soudan Medical Department (Dr. J. B. Christopherson), the medical officer of health of Khartoum (Dr. A. Balfour), three medical officers of the Egyptian army, and a sanitary engineer. This is a great advance, for the board will have to examine all schemes for medical and sanitary development, besides all legal ordinances and budgetary proposals connected with the public health.

Sleeping Sickness.

It is believed that this disease is not likely to occur in Egypt but the Egyptian Government has voted a sum of £1000 towards the cost of the programme proposed by the Royal Society for work in the direction of Uganda and will probably continue this grant for two more years.

Cairo, March 28th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Prevention of Tuberculosis among Government Employees.

AN important order has been issued by direction of President Roosevelt, the object of which is to protect Government employees from tuberculosis. The order is based on the report and recommendations of a committee appointed to inquire as to the dangers of tuberculosis in Government offices. The President's order directs the surgeon-generals of the Army, Navy, and Public Health Service to cause an immediate inspection to be made of the public buildings and workshops under their respective departments, and to report all insanitary conditions immediately remedial, and all insanitary conditions requiring structural changes. The public buildings not in these departments are to be inspected in like manner under the direction of the surgeon general of the Public Health Service. The order further provides that whenever there is a doubt with regard to any person in the Government service as to whether the said person is affected with pulmonary tuberculosis an order shall be issued for the said person to present himself (or herself) at one of the Government laboratories for examination and to present to the department, from the director or other authorised officer of the said laboratory, a certificate showing the result of the said examination. Having obtained the names of all persons affected with tuberculosis in any department the head of the said department shall present to each person so affected the rules prescribed by the committee for their observance. The non-observance of such rules by the employee shall, in the discretion of the head of the department, be considered as a just cause for separation from the service. It is also made the duty of the head of each executive department at Washington to cause to be transmitted to all the federal buildings under his control the rules prepared by the committee to prevent the spread of tuberculosis in the buildings [illegible] their display by the custodian in such manner and in such number as is necessary to carry out the course of his charge informed the jury that according to law a statement could be malicious though the person uttering it entertained no ill-will. The following day another action for slander by the same nurse against the father of the child Donovan was at hearing before Mr. Justice Johnson, the other judge of assize. The defendant in the course of his evidence stated that in notifying the sanitary authorities he was influenced by the desire to prevent other people from suffering as he had suffered. The jury that tried the case brought in a verdict in his favour. The nurse had an action for slander against a third party, also in connexion with the death of the child Donovan, but counsel of both sides asked for a postponement till next assizes and the judge ruled accordingly.

April 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Prevention of Contagious Diseases in Bathing Resorts.

AT a meeting of the Academy of Medicine held on March 20th M. de Rance called attention to the fact that the danger of the propagation of contagious diseases is much less in villages, where the population is more or less scattered, than in the urban mineral water resorts, where at the height of the season there is decided overcrowding in some hotels at certain periods of the year. The aggregation of individuals and the special predisposition to further illness which exists among persons who are already in bad health, weakened, or depressed, are also favourable to the transmission and propagation of disease. Moreover, if such transmission of disease cannot be prevented and an epidemic is threatening the result may be a panic which will empty the hotels and villas. Interests which deserve consideration are therefore at stake. The medical man ought accordingly to place the patient in the best conditions for recovery, ought to take all necessary measures for preventing infection, and in the general interest ought to allay public apprehension. If there is no isolation hospital reserved for contagious diseases the patient might be removed to a house or villa fulfilling the conditions necessary for isolation and disinfection. Sometimes, however, a patient had to be kept in an hotel and prophylactic measures, no matter how carefully designed, were a failure. For the efficient carrying out of such measures it would be necessary, in the first place, to confer the requisite authority on the medical man and the mayor of the district and, secondly, to place at their disposal a building where strict isolation and disinfection could be enforced.

Action of the Extract of Cotton Seed on Human Milk.

At the same meeting of the Academy of Medicine M. Gilbert communicated a paper by M. Barlerin on the chemical modifications presented by human milk under the influence of extract of cotton seed. M. Barlerin administered the extract to women who attended the Belleville dispensary and were about to wean their infants on account of their milk being deficient both in quantity and in quality. Among all these women in from two to eight days after taking the extract M. Barlerin found an improvement in the quality of the milk. This improvement had reference chiefly to the proportion of the fatty and albuminoid constituents; the amount of fat contained in the milk increased on an average by 18 grammes per litre, or 50 per cent. of the quantity existing before the experiment. The casein increased on an average by from five to seven grammes per litre, or 48 per cent. of the previous proportion. From these experiments it therefore seems that the administration of small quantities of extract of cotton seed to women who are giving milk brings about a considerable increase of the fat and casein in the milk. This discovery may have important consequences. All medical men are unanimous in the opinion that artificial feeding is one of the causes of the considerable infant mortality which prevails in France, and especially in some of the large towns. Extract of cotton seed may therefore in the majority of cases render maternal suckling possible. It must, however, be remembered, on the one hand, that milk which is deficient in fat and casein does not adequately nourish the infant, while, on the other hand, milk which is too rich in casein, and especially in fat, is no less objectionable on account of its liability to produce gastric and intestinal derangement. Extract of cotton seed seems to be an active subst therefore ought not to be used unadvisedly. The man ought always to watch its effects, to reg administration according to the weight and stat child, and to stop it when the object in view attained.

April 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Infant Life Protection.

AN exhibition dealing with the question of in protection has been lately opened in Berlin ur management of a committee including medical philanthropists. The care of infants is a subject interest at the present time, especially in Berlin, v enormous mortality prevails among the infants of th classes. The researches of Professor Behring on tl mission of tuberculosis by food, the endeavours wh been made to provide the infants with pure milk, a topics which have been discussed in the newspap fixed the attention of the general public on the The exhibition is therefore of a popular as we scientific character and has for its object the tion of the public, and especially young mothers, upbringing of infants. The exhibition includes partments, the first of which is devoted to statis displays statistical tables compiled by the Imperial Office and the statistical offices of several towns the mortality of infants and the dependence of this n on food, climate, the prevalence of tuberculosis, &c second department deals with the development a diseases of infants. Graphic curves showing the w children reared on natural and on artificial food tively, anatomical specimens, &c., may be seen her third department is concerned with the physiolo pathology of nutrition. Chemical researches on hum and on that of the lower animals, specimens of the present in milk, and descriptions of the met milking are the principal objects of this departmen fourth department gives details of the official work d the health of infants, such as the providing of disp and homes for them, the examination of milk a control of its sale by the authorities, model cow hou Much apparatus and many appliances for the steri and the transport of milk and for the supply of it larger cities are striking features of this departmen fifth department has for its subject the care of inf families; it contains model nurseries with beds, milk sterilising instruments for private use, &c. The six last department deals with the care and supervi foster-children and the control of the foster-parents authorities and by societies. It may be seen from the description that the exhibition contains abunda interesting material. It has been visited by thous mothers and it may therefore be hoped that it will con to the welfare of the future generation.

Poisoning by Saccharin.

Dr. Luth of Bajohren, a town on the Russian fr writing to the *Berliner Klinische Wochenschrift*, de the case of a woman who after a dispute with her hu had swallowed about two grammes of saccharin. a medical man arrived about 15 minutes later he fou lying on the floor and her condition was at first supp be due to alcoholic intoxication. She was unconscio face was flushed, she foamed at the mouth, and su from convulsive attacks with choking; her respiratio frequent and her pulse was weak, very quick, mittent, and irregular. Under artificial respiratio massage of the heart the pulse within half an became stronger and regular and the respiration b normal. After about 45 minutes the patient awoke an quite well. Poisoning by saccharin is rather rare. remarkable that severe symptoms occurred within only minutes and as rapidly disappeared. In Germany sacc is sold to the public only on medical prescription an woman had therefore purchased the drug from a neighbo Russian pharmacy.

The Association for the Prevention of Venereal Diseas

The German Association for the Prevention of Ven

Accurate Labels on Patent Medicines.

Public interest has been aroused to the dangers of patent medicines by investigations which have revealed the fact that many of them contain such dangerous ingredients as acetanilid, cocaine, morphine, and wood alcohol. Occasional deaths have been attributed to the free use of these medicines by the public. To regulate the sale of these drugs a Bill has been introduced into the New York legislature by a society of physicians which prohibits the manufacture and sale of medicinal preparations, including so-called "foods," which contain alcohol or certain other narcotic or potent drugs, unless the presence and percentage of such ingredients are revealed on the label in plain English. Where alcohol has been used as a solvent, preservative, or for any other purpose it is deemed an ingredient in the medicine. The label shall constitute a warranty which may be availed of by an injured party. The Bill does not apply to preparations intended solely for external use, or to the dispensing of compounds or prescriptions by legally authorised physicians, dentists, or veterinarians, or to preparations in the pharmacopœia of the United States or the National Formulary unless sold under a proprietary name or trade mark.

Euthanasia.

The question of legalising the act of taking the life of a patient by a physician under certain conditions, has taken an acute form by the introduction of a Bill in the Iowa State legislature making the necessary provision for such a procedure. The Bill is aimed to secure an immediately painless death to persons suffering from a painful disease which will certainly end in death, and to prevent the rearing of hideously deformed children and hopelessly idiotic children. The Bill requires that at least three physicians and the county coroner must unanimously agree to, and participate in, the act, and the consent of the nearest relative and, if possible, that of the patient must be obtained. Any deviation from the proceedings described constitutes murder and subjects the offender to the penalty of murder. The Bill provides a heavy fine for any physician who fails to perform his duty under this measure and also prescribes the usual penalty for murder in the first degree in cases of abuse of the law.

Japanese Naval Sanitation.

At a dinner given at Chicago to Baron Takaki, surgeon-general of the Japanese navy, the distinguished guest stated that when he entered the navy three-fourths of the entire sick list were made up of patients suffering from beri-beri. In his study of the conditions under which the disease appeared he concluded that the ration of the navy contained too great a proportion of carbohydrates and too little albuminates, for he discovered that the prevalence of beri-beri varied directly with the variation of these food constituents. He endeavoured to change the constituents of the ration by the issue of barley in place of part of the rice ration. Strenuous opposition was made to the change by the officers and men and it required a long and severe struggle to effect the reform, but he finally succeeded and beri-beri practically ceased to exist in the navy. He stated that this disease can be artificially produced and that it can be prevented by diet. Referring to the dead and wounded in the Russo-Japanese war he said that up to Dec. 5th, 1905, the total number of dead and wounded was 3639, of whom 1892 died instantly and 117 died subsequently, leaving a balance of 1630. The death-rate was 54 per cent., and more than 90 per cent. of the wounded returned to duty.

Health Conditions on the Isthmus.

The constant agitation in regard to the health conditions on the Isthmus maintains an active public interest in the affairs of the Panama Canal enterprise. The unfavourable reports of transient visitors to the region of the canal operations have lately caused much anxiety on the part of Congress and have led to very critical inquiry by its committee as to the actual sanitary conditions existing there. The report of the chief sanitary officer, Surgeon Gorgas, shows conclusively that the health of the labourers on the canal is remarkably good cons[illegible] the fact that these labourers are largely unac[illegible] January there was an average of 22,000 empl[illegible] daily number sick was 503, [illegible]

March 24th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Pasteur Institute.

The usefulness of the Pasteur Institute at Kasauli is becoming more recognised and with each succeeding year a larger number of patients resort to it for treatment. Last year there were [illegible] patients as against [illegible] for 1904. Of last year's patients [illegible] were Europeans and [illegible] were Indians. Although provinces near the institute naturally contribute the largest numbers, all parts of India send patients. Burma, Assam, Madras, Sikkim, and even Ceylon and Aden each sent a few. The present director is Captain G. Lamb, I.M.S., who was appointed last year when Lieutenant-Colonel D. Semple, R.A.M.C., the former director, was appointed the head of the Central Research Institute. Of the cases treated [illegible] were for *dog-bites* and [illegible] were for *jackal-bites*. Three cases developed hydrophobia while under treatment: two of these were the result of bites from jackals. It should not be forgotten that besides the work in treating cases of rabies the Institute prepares antitoxic sera for diphtheria, tetanus, and snake venom. The total value of these sera issued amounted to Rs. [illegible]. The anti-venomous serum now issued is prepared with a mixture of cobra and other poison.

The Proposed X Ray Institute at Dehra Dun.

It is announced that the Government of India has decided, with the approval of the Secretary of State, to establish an institute in India as a centre for the practical instruction of medical officers and subordinates in the use and management of the x ray apparatus and as a depôt for the storage and repair of such apparatus. The Institute will be located at Dehra Dun and will be under the charge of an officer of the Indian Medical Service. Classes of instruction will extend over a period of three months and facilities will be given to officers who may be desirous of acquiring this special knowledge.

Rat Fleas and Plague: Further Experiments.

Experiments have recently been continued in Bombay for the purpose of proving that rat fleas carry plague not only from rat to rat but from rat to man. Amongst other experiments, a room was selected in which a rat that had died from plague had been found. In this room animals were placed, some being protected by fine metallic gauze, &c., around their cages in order to keep away the fleas, and others were left without these precautions. The unprotected animals sickened and died and rat fleas infected with plague were found on them. The protected animals escaped. In another experiment houses were selected in which cases of plague had occurred and in which rats dead from plague had also been found. The people were removed and then in each house captive animals were placed, some being protected as before described and others not. The result was that those animals which were protected from fleas remained sound while the others were attacked with plague and died. The health department in Bombay is taking energetic measures with regard to the rats found in the streets and houses. Where plague rats are found the houses are marked and disinfected and the occupants are warned. Rat poison is also being largely used. In Calcutta, also, an active crusade is being undertaken against the rats. Rewards for live rats seem to have proved successful and large numbers are destroyed daily.

Miscellanea.

The Royal shoot at Nepaul, for which such great preparations had been made, was broken off on account of the occurrence of cholera in the Maharajah's camp. The disease spread amongst the mahouts and the special man for the Prince's elephant was the first to succumb.—The health returns for the British army in India for 1905 promise to show a still further improvement. Preliminary reports have so far only been issued but these show that malaria and "contagious diseases" have declined and that the mortality from enteric fever has been much less.—Plague of a virulent type is reported to have broken out in Seistan and it is presumed that the disease reached Seistan through the Persian Gulf. *Plague now prevails on each side of Baluchistan.* There is no doubt that this new centre of infection increases the danger of plague working its way into Europe.—It is not generally known *that very considerable numbers* of the population in the United Provinces, the Punjab, Rajputana,

LIONEL SMITH BEALE, M.B. LOND., F.R.C.P. LOND., F.R.S.,
EMERITUS PROFESSOR OF MEDICINE IN KING'S COLLEGE, LONDON, CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL.

Obituary.

LIONEL SMITH BEALE, M.B. LOND., F.R.C.P. LOND., F.R.S.,

EMERITUS PROFESSOR OF MEDICINE IN KING'S COLLEGE, LONDON; CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL.

Lionel Smith Beale was born on Feb. 5th, 1828, in a house close to the church of St. Paul, Covent Garden. He was the only son of Lionel John Beale, M.R.C.S., who practised at 108, Long Acre, and was known in connexion with public health matters as they were understood at that day. His early education was conducted at a private school at Highgate and later at King's College School, whence he entered the medical department of King's College, London. The manner in which he worked as a student is well brought out by the following facts. As early as 1841 he signed an indenture as an apprentice to Joseph Rose, surgeon and apothecary, of Islington. In 1847 he matriculated at the University of London with honours in chemistry and zoology, and in the same year went to Oxford as anatomical assistant in the museum to the late Sir Henry Acland, then the curator. He held this post for two years, being succeeded by Victor Carus of Leipsic. Upon leaving Oxford he began his professional examinations. He passed the first M.B. London in 1849, and in the same year obtained the licence of the Society of Apothecaries and also a certificate stating that he had conducted at the request of the Government Board of Health (the Medical Department of the Privy Council whose work was later transferred to the Local Government Board) a house-to-house visitation at Windsor during the cholera epidemic. This was a most laborious commission and when we remember Beale's youthfulness the amount of work which he found time to get through and the amount of responsibility laid upon him and accepted by him appear marvellous. In 1850–51 he was elected resident physician to King's College Hospital and in the latter year he obtained the degree of M.B. Lond. at the age of 23. It is a singular circumstance that he never proceeded to the doctorate, though the most pronounced purist would hesitate to withhold from him the title of "Dr."

The particular direction of his interests soon showed itself. In 1852 he established a private laboratory where he taught the use of the microscope and gave courses of instruction in physiological chemistry and minute anatomy, normal and morbid. He became at once recognised as a learned and lucid teacher and in 1853 he was appointed professor of physiology in King's College, while it is an interesting fact that no less a person than Professor Huxley, later to be his opponent in many well-fought-out arguments, was one of the candidates for the post. During these early years of his professional life he received much help and good advice from his seniors, notably from Dr. R. B. Todd, Mr. Sambrooke, and Mr. Robert Cheese, three names familiar to all who have worked in King's College Hospital. He was seen from the first to be developing into a scientific physician, but the rapidity of his advance seems incredible to those who realise what medical education means at the present day. He was, of course, a tireless worker, for during the time of his first professorship he was incessantly writing papers for the Royal Society, doing original microscopical work, and teaching and lecturing in many places. Between the years 1851 and 1858 he published over 100 papers, most of them fully illustrated by his own hand, and although these papers are of varying interest and value they laid the foundation of his fame as a man of science and connected his name for the future in men's minds with the famous band of workers at King's College at that date. The names of Todd, J. E. Bowman, and Beale are revered as successive professors of physiology who had as their colleagues Richard Partridge in anatomy, J. F. Daniell and W. A. Miller in chemistry, George Johnson in materia medica, William Fergusson in surgery, Thomas Watson and George Budd in medicine, and Arthur Farre in midwifery. Having been appointed to the chair of physiology at the early age of 25 years it is not surprising to find that not one of his first colleagues survives him, and in considering the chief interest of his life of work it is equally sad to realise that death has already removed those with whom he long maintained many vigorous controversies. When he was only 29 years of age he published the first edition of his book, "How to Work with the Microscope," and the opening words of the preface indicate thus early some characteristics for which subsequent generations of students and observers have been grateful. The book was undertaken, he says, from "an earnest desire to assist in diffusing a love for microscopical inquiry, not less for the pleasure it affords to the student than from a conviction of its real utility and increasing practical value in promoting advancement"; and every page of his book carried out the double promise. It will probably be of interest to note that in the third edition published in 1865 the author not only depicted bacteria and the large bipolar nerve cells from the lumbar nerves of the green tree-frog, but he also included drawings of amœboid movements, concerning which he stated "the nature of these movements has not yet been explained, but I consider them to be 'vital' movements." Such things show well how arduous and exact Beale's researches were, and well illustrate the following brief note which we have received from Professor W. Osler. "The influence of Dr. Beale," writes Professor Osler, "as a scientific investigator and as a clinical physician was much more widespread than perhaps was recognised in London or Great Britain at large. In part at least the unfortunate terminology employed was responsible for the unpopularity of his views in some quarters. His early histological studies were of great value, while as practical physicians we must always be thankful to him for the stimulating work which he did in medical microscopy. His two well known books, 'How to Work with the Microscope' and 'The Microscope in Medicine,' were of the greatest service to two generations of medical students. Many practical points which he introduced in technique, while now superseded, formed important steps in the progress of the art. Both in Canada and the United States there are scores of men of my day who, like myself, knew Dr. Beale only through his writings, who will hear of the death of their old teacher with sincere regret and who will recall with gratitude labours which so often helped to lighten their own."

In 1860 he became professor of pathology in King's College, having previously for several years delivered systematic lectures on morbid anatomy, and during that time he devoted a large amount of time to a consideration of the Darwinian theory and its influence on current philosophical thought. This subject in some form was continually revived in his lectures both while he was professor of pathology and later when he became professor of medicine in the College, and he never wearied in denouncing all who sought to explain the mysteries of life as the outcome of physico-chemical laws. In his book on "Protoplasm or Life, Matter and Mind," he endeavoured to draw attention to the facts and arguments by which the theory of vital action is supported as against purely physical doctrines of life. In this book prominence was given to the many objections to the universal application of physical causation, the mechanical doctrines of life, and the assumed potency of matter to form all living things and to give origin to all vital action. Undoubtedly his eloquent and forcible siding with what may be termed spiritual views gained enormously in force by his familiarity with the microscope and with exact scientific methods. His training and habits were so exactly those that should have made a materialist of him that his deep religious feeling came as an arresting surprise; at the same time his published work was founded on such accurate research that his views could not be regarded as those of a mere mystic.

In 1876 he became professor of medicine and his practical skill as a therapeutist was displayed in his lectures, some of which were published in a well-known volume, "On Slight Ailments: their Nature and Treatment." The title of this book sufficiently indicates its general scope, but throughout its pages will be found not only valuable hints and "wrinkles" which the author had learnt from his old masters but also continual encouragement to assume a cheery optimism, an attitude which was characteristic of the lecturer himself. During this period of Beale's life he became a well-known and highly valued consultant physician, and many generations of students at King's College Hospital, as well as many patients both in the hospital and in private life, testified to the shrewdness of his knowledge and the kindness of his heart. In 1896 he retired from the professorship of medicine, having thus had no less than 43 years of professorial life, during 40 of which he had been physician to

LIONEL SMITH BEALE, M.B. LOND., F.R.C.P. LOND., F.R.S.,
EMERITUS PROFESSOR OF MEDICINE IN KING'S COLLEGE, LONDON, CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL.

Army Medical Reserve. He went to Blackburn over 30 years ago as assistant to the late Dr. Irving, whom he subsequently joined as a partner, and on Dr. Irving's death carried on the practice which under his care became one of the largest in the district. Dr. Martin fulfilled in himself the traditions of his inheritance, and during the later years of his life never appeared happier than when stimulating his younger colleagues with that zeal and enthusiasm for their work with which he was imbued. Those who were intimately acquainted with him recognised for some time symptoms of failing health, but though he was known to be suffering from an attack of erysipelas his death from cerebral hæmorrhage came as a shock to all. The greatest sympathy is extended to his widow and family, both by his numerous friends and also by his professional brethren who recognise that by his death they have lost not merely a worthy colleague but a competent and trustworthy leader.

THOMAS EVANS, M.D. EDIN., L.R.C.S. EDIN.

Dr. Thomas Evans died recently at his residence, Park House, Newquay, Cardiganshire, in his sixty-fourth year. He was born at Newquay and received his medical education at the University of Edinburgh, where he graduated as MD. in 1865, subsequently obtaining the diploma of L.R.C.S. Edin. in 1870. After holding the appointment of senior house surgeon at the Royal Portsmouth Hospital, Dr. Evans commenced practice at Newquay, where he filled several public appointments, being medical officer of health of the Aberayron rural district and also of the Newquay urban district. He was medical officer and public vaccinator of the Llandisilio district of the Aberayron union and Admiralty surgeon and agent. Dr. Evans was highly respected at Newquay; he was chairman of the old school board and a manager of the Newquay group of schools. He leaves a widow and five children, with whom much sympathy is felt. The funeral, which took place on March 30th, was largely attended.

JESSIE MACLAREN MACGREGOR, M.D. EDIN., L.R.C.P. & S. EDIN., L.F.P.S. GLASG.

NEWS has just been received in Edinburgh of the death of Dr. Jessie MacLaren MacGregor in Denver, U.S.A., after a short illness. Dr. MacGregor was well known in Edinburgh, where she received her medical education and where she practised until about a year ago when she went to Denver, attracted there by family ties. She took the Scottish triple qualification in 1892. As soon as the University opened its degrees to women she at once set herself to prepare for the examinations and graduated as M.B., C.M. in 1896. Three years later, in 1899, she took the M.D. degree and was the first lady graduate of Edinburgh to be awarded a gold medal for her thesis. For a short time she held the post of registrar to the Royal Hospital for Sick Children and at the time when she left Edinburgh she was a member of the staff of the Hospital for Women and Children. She published a book on "The Pathology of the Endometrium" which has been well received and which contains the record of extensive observations. She was an able and popular practitioner and was taking quite a foremost place amongst those of her sex in Edinburgh, so that her prospects were bright and her friends there naturally regretted her determination to cross the Atlantic. In Denver she soon obtained work in the University and there was every prospect that she would before long have got her share of clinical work. Her unlooked-for death has cast a gloom that is all the deeper in view of the regret which was aroused by her decision to abandon her position in Edinburgh.

GLOUCESTERSHIRE INFIRMARY AND EYE INSTITUTION.—The annual meeting of the subscribers to this institution was held on March 29th. The medical report was satisfactory but the financial statement showed that an unfavourable balance of £596 remained. The chairman (Colonel Hayward) referred to the fact that during the year £188 were spent in spectacles and appealed to the committee for strict inquiry into the circumstances of patients who obtained these articles from the infirmary. £11,144 had been spent on building and improvements; of this sum £7800 had received, leaving £3310 still to be raised.

Medical News.

UNIVERSITY OF LIVERPOOL: DIPLOMA IN TROPICAL MEDICINE.—The examinations for the Diploma in Tropical Medicine were held on March 26th, 27th, and 28th. The following candidates satisfied the examiners and have been recommended for the diploma:—

F. A. Arnold, M.B., D.P.H.; J. B. Bate, L.S.A.; J. Dundas, M.B.; Major N. Faichnie, M.B., R.A.M.C.; D. F. Mackenzie, M.B.; Major A. Pearse, D.P.H., R.A.M.C.; and Captain R. D. Willcocks, M.B., I.M.S.

TRINITY COLLEGE, DUBLIN.—At examinations held in Hilary term the following candidates were successful:—

FINAL EXAMINATION IN MEDICINE.

Part I.—Thomas O. Graham, Francis W. H. Bigley, Cecil T. Conyngham, Henry D. Woodroffe, Ernest C. Crawford, Charles G. Sherlock, Arthur E. Knapp, Albert T. J. M'Creery, Francis O'B. Kennedy, Wilfred L. Hogan, Henry B. Leech, John A. Hartley, Joseph C. Ridgway, Wallace D. Mitchell, and George H. Stack.

Part II., Medicine.—Samuel G. S. Haughton, Gustav W. Thompson, John D. Sands, Robert A. Askins, John C. P. Beatty, Basil G. Brooke, Thomas H. Peyton, Francis Casement, Francis Coppinger, George Dougan, George G. Vickery, Ralph S. Oldham, and Edward Gibbon.

Part II., Surgery.—John D. Sands, Basil G. Brooke, Robert R. Jackson, Ralph S. Oldham, Samuel G. S. Haughton, Alfred G. Alexander, Hercules J. Knox, and Gustav W. Thompson.

INTERMEDIATE MEDICAL EXAMINATION.

Part II.—William Pearson, Johannes C. Pretorius, Robert E. Wright, William E. Hopkins, John A. W. Ponton, William S. Thacker, David J. Miller, Dixie P. Clement, James F. Clarke, Wilfred J. Dunn, Thomas P. Dowley, Alfred H. Smith, James C. C. Hogan, Gordon A. Jackson, John H. Morton, Thomas P. S. Eves, Norman P. Jewell, Allman T. Powell, Julian B. Jones, James R. Yourell, Ernest C. Lambkin, Oliver Gogarty, Edmund H. Sheehan, Alexander S. M. Winder, William Knapp, and Frank R. Seymour.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. Arriëns Kappers has been recognised as *privat-docent* of Histology.—*Berlin:* Dr. Adolf Passow has been appointed Director of the University Aural Clinic in succession to Dr. August Lucae who, having reached the age of 70 years, is retiring.—*Breslau:* Dr. Triepel of Greifswald has been appointed Honorary Extraordinary Professor of Anatomy.—*Copenhagen:* Miss Eli Müller, M.D., has been recognised as *privat docent* of Midwifery.—*Freiburg:* Dr. Ludwig Aschoff has been appointed to succeed the late Dr. Ziegler as Professor of Pathological Anatomy.—*Göttingen:* Dr. Wendeburg and Dr. Heiderich have been recognised as *privat-docenten* of Neurology and Anatomy.—*Halle:* Dr. Alexander Stieda has been recognised as *privat-docent* of Internal Medicine.—*Kiel:* Dr. Reinhold Ruge, *privat-docent* of the History and Geography of Medical Sciences, has been granted the title of Professor. Dr. Victor Klingmüller of Breslau has been appointed Extraordinary Professor of Dermatology in place of Professor von Düring who is going to Dresden.—*Kharkoff:* Dr. Kiyanitsyn of Kieff has been appointed Extraordinary Professor of Hygiene.—*Königsberg:* Dr. Klieneberger has been recognised as *privat-docent* of Internal Medicine and Dr. Joachim as *privat-docent* of Medicine. Dr. Rudolph Kafemann, *privat-docent* of Laryngology, has been promoted to an honorary professorship.—*Leipsic:* Dr. Heinrich Klien has been recognised as *privat-docent* of Neurology.—*Munich:* Dr. Oberndorfer has been recognised as *privat-docent* of Pathological Anatomy.—*Padua:* Dr. Giuseppe Albertotti of Modena has been appointed to the chair of Ophthalmology.—*Pavia:* Dr. Giuseppe Muscatello has been appointed Extraordinary Professor of External Pathology.—*Rome:* Dr. Ercole Tranquilli has been recognised as *privat-docent* of Internal Pathology.—*Rostock:* Dr. Joseph Meinertz has been recognised as *privat-docent* of Internal Medicine.—*Strasburg:* Dr. Albrecht Bethe, assistant in the Physiological Institute, Dr. Edwin Faust, assistant in the Pharmacological Institute, Dr. Julius Klein, *privat-docent* of Gynæcology, and Dr. Karl Spiro, assistant in the Institute of Physiological Chemistry, have been promoted to Professorships.

SHEFFIELD AND DISTRICT EDINBURGH UNIVERSITY CLUB.—The first annual dinner of the above club took place on March 24th at the Royal Victoria Station Hotel, Sheffield. The club has started with a membership of 57 and a company of 90 was present, with Dr. J. H. Keeling, the *doyen* of the medical profession in Sheffield, in the chair. Professor T. Annandale was the guest of the evening and amongst other guests present were Professor W. M. Hicks,

alcohol accelerated the spread of tuberculosis; it also weakened the body's defences against all *diseases* and in most cases increased the latter.

THE BRITISH MEDICAL BENEVOLENT FUND.—A bank-note for £10 from "Anon." has been received by the honorary treasurer of the British Medical Benevolent Fund.

BRISTOL ROYAL INFIRMARY.—The sum of £45,013 has been received towards the "£50,000 Fund" required for bringing the Bristol Royal Infirmary thoroughly up to modern requirements.

DONATIONS AND BEQUESTS.—A donation of £1000 has been received by the treasurer of the Leeds General Infirmary from Mrs. Cooke of Leeds to endow a bed in memory of her husband, the late Mr. A. Cooke.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—The thirty-first annual meeting of the supporters of this hospital was recently held in the town hall, Manchester, under the presidency of the Lord Mayor (Mr. J. H. Thewlis). The report tells of increased and increasing work. The 50 beds at the Bowdon in-patient department had been fully occupied. At the out-patient department at Hardman-street, where not only consumptive patients are treated but also those suffering from other diseases of the respiratory organs, throat, nose, and upper air passages, 11,210 cases were attended to, while the Crossley Sanatorium at Delamere has begun very auspiciously its beneficent work. Mr. Crossley not only built the sanatorium but supplied the complete furnishing and equipment, including the plant for electric lighting, heating, steam laundry, water-supply, and scheme for the disposal of sewage, and it is safe to say that it stands high in the list of institutions for the treatment of consumption. The grounds are 66 acres in extent and, with the exception of meal times, the patients are out the whole of the day, either lying on their couches in the shelters or taking exercise as prescribed by the medical officers. Of course there is the usual appeal for funds but Mr. Crossley, who was present, thought that they were fortunate in having only a deficiency of £1800 on the two accounts in the first year of so large an undertaking. He wished medical men would take more interest in the hospital and send more paying patients. "This idea had been obtained from Germany." The lowest rate of payment for these patients was two guineas a week, while the ordinary cases paid on an average 3*s.* a week. About a dozen of the patients were present, all looking hale and well. They will have to continue to live as nearly as possible in the conditions that led to their improved health, which is, of course, the hardest problem of all.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board held a meeting on March 29th at 6, Suffolk-street, London, Dr. F. H. Champneys being in the chair.—A letter was read from Dr. E Walford (medical officer of health of Cardiff) forwarding a copy of a resolution passed by the local supervising authority at Cardiff asking the Board to make Cardiff one of the provincial centres for the Board's examinations. Some of the candidates did not understand the English language and it was urged that this difficulty would be obviated by having a provincial centre at Cardiff. After a discussion the matter was referred to the standing committee. The report of the meeting of examiners held on March 20th to consider the question of an official handbook for midwives was received. The report states that it was moved and seconded "that the examiners recommend to the Board the publication of an official handbook for midwives." It was decided that the consideration of this recommendation should be postponed for six months. The clerk of the London County Council having reported that two midwives were guilty of persistent disobedience to Rule E, 19 (b), and had announced their intention of not complying with the rule, the board directed that the midwives in question should be called on to furnish an explanation of the fact alleged against them by the London County Council. At a meeting of the Board on Jan. 30th the name of Mary Ann George was removed from the roll and instructions were given that the papers in the case were to be sent to the Pr cutor for his consideration of the fo concerr g of a certificate of good

has received a letter from the director of public
tions dated March 5th, 1906, in which he says tha
read and considered the papers forwarded to him.
the conduct of the clergyman in question is in hi
morally inexcusable and the explanation altogether
factory he does not think in view of that explana
the clergyman would be convicted under Sectio
2 Ed. 7, c. 17, of wilfully making or causing to be
falsification in a matter relating to the roll of m
The director of public prosecutions submits that
indictable offence under that Act should be brough
notice of the Central Midwives Board it would be
its power to institute a prosecution and that thes
not necessarily be cases calling for the interventio
director of public prosecutions under 42 and 4
cap. 22, and the regulations made under that Act.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Army Medical Reserve.

IN THE LANCET of March 31st an outline was given of the n
Medical Reserve scheme. The subject was discussed in the
Commons on the Army Estimates when Mr. HALDANE g
additional particulars. He said that it was perfectly plain t
their increasing burdens no nation—certainly not this natio
bear the charges of keeping everything in the time of peace
war level. Therefore the War Office has set itself to act upon
ciple of asking itself what steps it could take to prepare in time
things in skeleton so that they might be clothed with flesh a
when war broke out. The outbreak of war was the only test t
be applied. The very efficient director-general of the Army
Service had had the matter under consideration lately and a s
a new scheme had been made. It was recognised that in order
the civilian surgeon—for civilian surgeon he would be for t
during peace time—efficient in time of war he must go through
training. Even the distinguished men who went to Sout
at the time of the war found themselves very much out of it wh
came to do the special work which the army surgeon had to
(Mr. HALDANE) did not himself realise the reason for that clea
he read one of the latest treatises upon military hygiene. The
the vote for the Army Medical Establishment a sum of £4
reserve of civilian surgeons and what the War Office proposed t
to take 450 young medical men who were willing to enter the ne
Medical Reserve and to train them. They would be subject to t
that govern the employment of reserve officers generally an
have the rank of lieutenant on joining with promotion to capta
three and a half years' satisfactory service. A practitioner join
reserve would have to undergo a course of special training at th
of the Royal Army Medical Corps at Aldershot. During th
he would receive the pay and allowances of an officer of h
in the Royal Army Medical Corps. If this probationary pe
service was satisfactory he would be confirmed in his rank and
in his second and third years a retaining fee of £20 a year. He n
course, do something for that money and he would be called u
undergo another period of instruction preparatory to pass
examination which was necessary for promotion to the r
captain. During this second course, the duration of which
be one month, he would be paid as before. After pro
to the rank of captain his retaining fee would be £25 a
It was proposed to limit the period in the reserve to seven
by which time the surgeon would have learned enough wi
civilian knowledge to make him able to take the field wi
requisite qualifications. The reserve would be primarily comp
civilian surgeons, but it was not intended to exclude officers
auxiliary forces and medical officers of the Volunteers, provide
were seconded in their Volunteer corps. These reserve officers
resign their commissions upon the usual conditions. It was also
to get a certain number of reserve attendants in the same way.

Charge against Medical Practitioners.

In the course of the debate on the second reading of the P
tion of Corruption Bill in the House of Commons on Apr
Mr. VIVIAN alleged that a practice existed among a certain c
medical men of accepting commissions for placing orders for coff
the patients whom they were attending. The statement was rec
with cries of dissent, but Mr. VIVIAN reiterated the allegatio
asked the House to picture the situation created when the m
attendant knew that if the patient died the insurance money
be there to pay for the coffin and the commission, while if the pa
lived there would be no money to pay even the medical fees.
tunately, no medical Member was in the House to take up the m
at any rate no reply was attempted.

England G F, M D Cantab, has been appointed Certifying Surgeon under the Factory and Workshop Act for the Winchester District of the county of Hants

Fairbank, H A T, M S Lond, F R C S Eng, has been appointed Orthopædic Surgeon to Charing Cross Hospital

Fletcher, J. R., L R C P Edin, L F P S Glasg has been appointed Certifying Surgeon under the Factory and Workshop Act for the Sherston District of the county of Wilts

Howard-Jones, J, M R C S, L R C P Lond has been appointed Certifying Surgeon under the Factory and Workshop Act for the Worthen District of the county of Salop

Lambert, Frederick Samuel, M R C S, L R C P Lond, has been appointed Medical Officer to the Lincoln Post Office

Lewis, Cyril, M D, C M Edin, *has been appointed Honorary* Assistant Physician to the Cardiff Infirmary

Middlemiss, W J F, L.D S Edin, has been appointed Dental Surgeon to the Troops in Ireland

Milne, Leslie J, M D, C M Aberd, has been appointed Certifying Factory Surgeon for Mirfield, Ravensthorpe, and Thornhill, and Medical Officer of Health of Mirfield and Medical Officer to the Crossley Infectious Hospital.

Paterson, Donald Rose, M D, C M Edin., M R C P Lond, has been appointed Honorary Surgeon to the Ear, Throat, and Nose Department at the Cardiff Infirmary

Pearce, Arthur, M R C S L.S A, has been re-appointed Medical Officer of Health of the Salcombe (Devon) Urban District.

Ridout, C A **Scott**, M S, M B *Lond*, F R C S *Eng*, has been appointed Honorary Pathologist to the Royal Portsmouth Hospital

Rudge, Frederick Henry, L R C P Lond, M R C S, has been appointed Resident Obstetric Officer at the Bristol Royal Infirmary

Sheppard, Arthur Lewin, M B, B S Durh., has been appointed House Physician at the Bristol Royal Infirmary

Short, Arthur Rendle, M D, B S, B Sc. Lond, has been appointed Senior Resident Medical Officer at the Bristol Royal Infirmary

Smith, L. Shingleton, L.R.C P *Lond*, M R.C S, has been appointed Junior House Surgeon at the Bristol Royal Infirmary

Wright, A. J, L R.C P Lond, M R C S, has been appointed Casualty Officer at the Bristol Royal Infirmary

Wyand, E H, L D S Eng, has been appointed Dental Surgeon to the Troops at Aldershot.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

Aberdeen (New) Poorhouse.—Resident Assistant Medical Officer Salary £80 *per annum, with board, attendance, &c.*

Ayr County Hospital.—Resident House Surgeon Salary £70 per annum, with board and residence.

Bridgwater Hospital.—House Surgeon Salary £80 a year, with board and residence

Buxton, Derbyshire, Devonshire Hospital.—Assistant House Surgeon Salary £70 per annum, with apartments, board, and laundry

Canterbury, Kent and Canterbury Hospital.—House Physician, unmarried Salary £90 a year, with board and lodging

Carlisle Non Provident Dispensary—Resident Medical Officer Salary £150 per annum, with apartments

Carnegie Dunfermline Trustees—Assistant Medical Officer (female) Salary £200 per annum

Central London Throat and Ear Hospital, *Gray's Inn road, W C* —Honorary Registrar

Chester General Infirmary—House Physician Salary £90 per annum, with residence and maintenance.

Committee for the Study of Special Diseases—Research Scholarship of £100 per annum for six months

Cotford, Taunton, Somerset and Bath Asylum—Assistant Medical Officer, unmarried Salary £140 per annum, increasing to £160, with apartments, board, &c

Dudley, Guest Hospital.—Assistant House Surgeon for six months Salary £40 per annum, with residence, board, and washing

East London Hospital for Children and Dispensary for Women, Shadwell, E —Assistant Surgeon

Edmonton Urban District Council.—Medical Officer of Health Salary £350, payable monthly

Garlands, Carlisle, Cumberland and Westmorland Asylum—Junior Assistant Medical Officer Salary £130 per annum, with board and lodging

Gartloch Asylum, Gartcosh.—Assistant Medical Officer Salary £125, with board and lodging

Hospital for Women, Soho square, W —House Physician for six months Salary £30

Hull Royal Infirmary—Honorary Assistant Ophthalmic Surgeon

Ingham Infirmary and South Shields and Westoe Dispensary —*Senior House Surgeon. Salary* £100 per annum, with residence, board, and washing

Knighton Union—District Medical Officer Salary £40 per annum

Leith Hospital.—Medical Registrar

Liverpool Infirmary for Children—House Surgeon Salary £100 per annum, with board and lodging

Liverpool, Royal Southern Hospital.—Junior House Surgeon Salary 60 guineas per annum

Liverpool Stanley Hospital.—House Surgeon Salary £60 per annum, with board, residence, and washing

London Lock Hospital.—House Surgeon to the Female Hospital. Salary £80 per annum, with board, lodging, and washing

Macclesfield General Infirmary—Senior House Surgeon Salary £100 for the first year, with an increase of £10 the second, with board and residence

Maidstone, West Kent General Hospital.—House Surgeon Salary £100, with board and residence Also Assistant House Surgeon and Anæsthetist Salary £60 with board and residence

Manchester Hospital for Consumption and Diseases of Throat and Chest—Resident Medical Officer for the In- Department at Bowdon Cheshire Salary £100 per annum, board apartments washing, and railway contract.

Manchester Monsall Fever Hospital.—Fourth Medical As Salary £100 per annum, *with board, lodging*, and washing

Margate Royal Sea Bathing Hospital.—Resident Su as Junior and Senior for six months each. Salary at *rate* and £120 per annum, with board and residence.

Miller Hospital and Royal Kent Dispensary, Greenwich S E —Honorary Medical Officer for X Ray and Electro- peutical Department.

Paddington Green Children's Hospital, London, W— *Physician*, also House Surgeon, both for six months. Sa rate of 50 guineas a year, with board and residence.

Paisley, Royal Alexandra Infirmary, Barbour Park.— Surgeon Salary £40, with bed and board.

Poplar Hospital for Accidents, Poplar, E.—Assistant Surgeon for six months Salary at rate of £20 per annum, board and residence

Reigate Town Council and Rural District Council.—M Officer of Health Salary £500 *per annum*

Royal College of Surgeons of England—Four Examiner Anatomy and Four Examiners in Physiology

Royal Ear Hospital, Dean street Soho, W —House Surgeon, resident. Honorarium at rate of £40 per annum. Also C Assistants.

Royal Eye Hospital, Southwark, S E.—House Surgeon f *months renewable Salary 50 guineas per annum, with boar* residence Also Clinical Assistants

Royal Free Hospital Gray's Inn road, W C —House Phy Casualty House Surgeon, both for six months Board, vided Also Resident House Physician and Resident Surgeon (Female) Board &c., provided Also Assistan Clinical Pathologist. Salary £50 per annum Also A Anæsthetist. Both females

Royal Halifax Infirmary—Second House Surgeon, un Salary £100 per annum, with residence, board, and washing

Royal Hospital for Diseases of the Chest, City road, Resident Medical Officer for six months Salary at rate per annum, with apartments, board, and washing

Royal Portsmouth Hospital, Portsmouth —House P for six months Salary at rate of £50 per annum, with residence, and laundry

St George's Union Infirmary, Fulham road, S W —Second ant Medical Officer Salary £120 per annum, with bo dence, and washing

Shrewsbury, Salop Infirmary—House Surgeon, unmarried. £100 per annum, with board washing, and residence.

Swansea General and Eye Hospital.—House Surgeon. S rate of £50 per annum first six months, £75 per annum af board, apartments, washing, and attendance.

Tottenham Hospital, *London*, N —House *Surgeon*, *Hou* sician Casualty Officer, all for six months Salaries at £90, £60, and £40 per annum respectively, with board, re and laundry

Virginia Water, Surrey, Holloway Sanatorium, St. Heath —Junior Assistant Medical Officer Salary £175 per *with board, lodging, washing*, &c.

West Riding of Yorkshire—Assistant to County Medical Salary £250 per annum, rising to £400

The Chief Inspector of Factories, Home Office, S W, gives n a vacancy as Certifying Surgeon under the Factory and shop Act at Uppingham, in the county of Rutland.

Births, Marriages, and Deaths.

BIRTHS.

Alcock.—On March 31st, at Norfolk Mansions, Battersea Park, S W, the wife of N H. Alcock, M D, of a daughter

Carruthers—On March 29th, at Central hill, Norwood, the S W *Carruthers*, M D, *of a daughter*

Letchworth—On April 1st at Fairlight, 156, Parkwood road, mouth E., the wife of T W Letchworth, B A., M.B., L.R C P, of a son

MARRIAGE

Kay—Laver—At St. Martin's Church, Scarborough, on Mar by the Rev A F Mitchell, vicar of St. Augustine's, Sheffie the Ven Archdeacon Mackerness, vicar of St. Martin's borough, *Walter Smith Kay, M D, Medical Superintendent* South Yorkshire Asylum, Wadsley, Sheffield, to Elizabeth widow of Arthur H Laver, M D, of Sheffield

DEATHS.

Beale.—On March 28th, Lionel S Beale, M B, F R.S, F R Emeritus Professor of Medicine in King's College London, sulting Physician to King's College Hospital, aged 78 years.

Buchanan—*On March 22nd, at Sowerby, Thirsk, John Ha* Buchanan, M.D, J P, aged 73 years

Hartford—On March 30th, at Christchurch, Henry William Ha L.R.C.P & L.R C S., aged 52 years

Marriott—On March 20th at Swaffham, Norfolk, Robert Buc Marriott, M R C S, L S A., L.M, aged 75 years

N B —A fee of 5s. is charged for the insertion of Notices of Bir Marriages, and Deaths

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(Taken daily at noon by Steward's Instruments)

THE LANCET Office, April 5th, 1906.

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Mar. 30	30·25	N.	...	60	49	34	35	39	Overcast
" 31	30·26	N W.	...	71	52	38	41	45	Overcast
April 1	30 45	W.	...	65	51	45	44	47	Overcast
" 2	30 50	E.	...	67	47	38	38	41	Fine
" 3	30 40	E	...	107	59	38	41	44	Fine
" 4	30·22	S E	...	107	66	41	41	47	Fine
" 5	29 84	S	...	106	60	43	43	49	Fine

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Communications, Letters, &c., have been received from—

A.—Messrs. Anderson, Anderson, and Co., Lond.; Anderson's College Medical School, Glasgow; A. A.; American Medico-Psychological Association, Poughkeepsie, Secretary of; Messrs. W. Anderson and Co., Lond.; A Disgusted Doctor; Dr. S. B. Atkinson, Lond.; An Edinburgh Graduate; Association of Medical Men Receiving Resident Patients, Bournemouth, Hon. Secretary of.

B.—Mr. W. H. Brown, Leeds; Mr. James Boyd, Simonstown, Cape Colony; Mr. H. R. H. Biggs, Lond.; British Druggists, Ltd., Lond.; Messrs. Blackwell, Hayes, and Co., Birmingham; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. S. Bowyer and Co., Lond.; Mr. S. H. Benson, Lond.; Mr. F. D. Byrne, Lond.; Messrs. Baylis, Lewis, and Co., Lond.

C.—Central London Throat and Ear Hospital, Secretary of; Cumberland and Westmoreland Asylum, Carlisle, Secretary of; Messrs. W. Clark and Son, Dunfermline; Country Doctor; Messrs. Cablan and Co., Lond; City of London Hospital for Diseases of the Chest, Lond., Secretary of; Clydebank and District Medical Society, Secretary of; Messrs. C. Comitti and Son, Lond.; Messrs. J. and A. Churchill, Lond.; Dr. A. K. Chalmers, Glasgow; Cheltenham General Hospital, Secretary of; Messrs. Cassell and Co., Lond.; Messrs. Samson Clarke and Co., Lond.; Messrs. Clarke, Son, and Platt, Lond.

D.—Dr. J. W. Dalgliesh, Sutton; Denver Chemical Manufacturing Co., New York; Dental Manufacturing Co., Lond.; Miss Dendy, Withington; D. P.; Dr. Bertrand Dawson, Lond.

E.—Equipoise Couch Co., Ashford.

F.—Mr. Gustav Fischer, Jena; Messrs. Fairchild Bros. and Foster, Lond.; Mr. Charles Fortescue, Torquay; Mr. H. Frowde, Lond.

G.—Mr. J. L. Gilles, Sacramento, U.S.A.; Glasgow University, Secretary of; Mr. F. H Godsell, Lond.; G. B.; Mr. T. H. Gilder, Bournemouth; Guest Hospital, Dudley, Secretary of.

H.—Mr. T. Haas, Bad Kissingen; Mr. A. F. Heald, Lond.; High Shot House, Twickenham, Medical Superintendent of; Mr. H. Hill, Tunbridge Wells; Holloway Sanatorium, Virginia Water, Medical Superintendent of; Dr. F. P. T. Hilliard, Davos Platz.

I.—Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded, Manchester, Secretary of; Invalid Children's Aid Association, Lond., Secretary of; Ingham Infirmary, South Shields, Secretary of.

J.—Messrs. D. Hill Jack and Son, Glasgow.

K.—Mr. C. B. Keetley, Lond.; Dr. James R. Kaye, Wakefield; Dr. Robert Knox, Lond.; Messrs. Kelly and Walsh, Singapore; Mr. Arthur H. J. Keene, Lond.; Messrs. Koidzumi and Co., Kyoto; Dr. J. H. Kellogg, Battle Creek, U.S.A.; Mr. J. Kennish, Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Dr. A. B. F. Lahmeyer, Oporto; *Liverpool* Hospital for Consumption and Diseases of the Chest, Secretary of; Messrs. Lee and Nightingale, Liverpool; Dr. F. Langmead, Lond.

M.—Mr. J. Moxon, Newport, Monmouthshire; Mr Roderick Mackenzie, Esquimalt; Lieutenant J. P. Müller, Lond.; Manchester Royal Infirmary Secretary of; Maltine Manufacturing Co., Lond.; Mr. A. Maloine, Paris; Mr. S. B. Mason, Pontypool; Messrs. C Mitchell and Co., Lond.; Macclesfield General Infirmary, Secretary of; Messrs. Manlove, Alliott, and Co., Nottingham; Manchester Hospital for Consumption, Secretary of.

N.—Dr. J. Niven, Manchester; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Messrs Ornstien Bros., Lond.; Messrs. Oppenheimer, Son, and Co., Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Messrs. Parke, Davis, and Co., Lond.; Principal, Blackheath; Messrs. Peacock and Hadley, Lond.

Q.—Messrs. Quibell Bros., Newark.

R.—Dr. Robert A. Reid, Boston, Massachusetts; R. G. B.; Royal Southern Hospital, Liverpool, Secretary of; Royal Portsmouth Hospital, Secretary of; Royal Halifax Infirmary, Secretary of; Messrs. B. J. Reid and Co., *Lond.*; *Rebman, Ltd.*, *Lond.*; Messrs. Reynell and Son, Lond.; Mr. W. A. Rees, Lond.

S.—Dr. J. M. Skinner, Aldershot; Dr. D. Lloyd Smith, Frodsham; Mr. J. Sheehan, Lond.; Mr. G. de Ste. Colombe, Bordeaux; Messrs. Saward, Baker and Co., Lond.; Messrs. W. B. Saunders and Co., Philadelphia, U.S.A.; Messrs. Smith, Elder, and Co., Lond.; Dr. E. H. Scholefield, Ravensthorpe; Saarbach's News Exchange, Mainz; Dr. G. H. Skinner, Leith; Messrs J. Smith and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.

T.—*Dr. George Turner, Pretoria*; *Toilet Novelties Co., Bristol*; T. H. B.; Torquay Medical Society, Hon. Secretaries of; Mr. John H. Tonking, Camborne.

U.—University College, Lond., *Principal of.*

V.—Dr. F. Vaz, Oporto.

W.—Dr. E. B. Waggett, Lond.; Mr. J. H. Williams, Griffithstown; Captain F. Winslow, R.A.M.C., Gibraltar; Messrs. Willows, Francis, Butler, and Thompson, Lond.; West Kent General Hospital, Maidstone, Secretary of; Mr. S. Wand, Leicester; West London Medico-Chirurgical Society, President of and Mr. L. A. Bidwell; Mr. B. Woolman, Croydon; West Riding County Council, Wakefield, Clerk of; Mr. W. A. Warters, Alfreton; Windsor and District Medical Society, Hon. Secretary of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. J. Abrahams, Lond.; Messrs. Armour and Co., Lond.; A. W.; A. L.; A. S. M.

B.—Mr. H. J. Blackett, Lond.; Mr. H. Brice, Exeter; B. L., Pinner; Mr. V. Bonney, Lond.; Dr. G. D. Barton, Weybridge; Barnsley, &c., Medico-Ethical Society, Secretary of; Dr. S. K. Basu, Malkhanagore, India; Mr. J. Ballantyne, Lond.

C.—Dr. C. H. Cattle, Nottingham; Dr. W. F. Colclough, Chester; Miss Cathcart, Lond; *Chester Courant*, Chester, Manager of; C. E. A.; Mr. F. W. Clarke, Chorlton cum-Hardy; Mr. J. B. Cameron, Lond.; Messrs. J and A. Carter, Lond.; Lieutenant W. B. Cullen, I.M.S., Aldershot; Mr. F. S. Cooper, Lond.

D. Dr. P. J. Daly, Cork; Messrs. Davis, Newland, and Hunt, Chepstow.

E.—Dr. E. Elsmere, Grinshill; E. N.

F.—Miss Fernie, Scarborough; F. J. A.; Captain W. H. C. Forster, Lahore, India; Mr. W. A. Fox, Grange-over Sands; Mr. A. G. R. Foulerton, Hayward's Heath; Dr. C. E. Fish, Ruthin.

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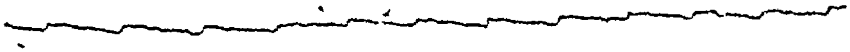
FIG. 1.



Female, aged [illegible] years. [illegible]

FIG. 2.

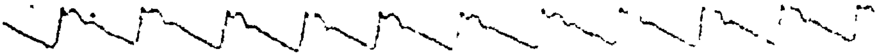


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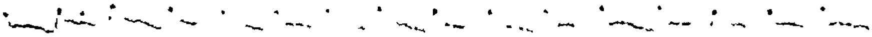
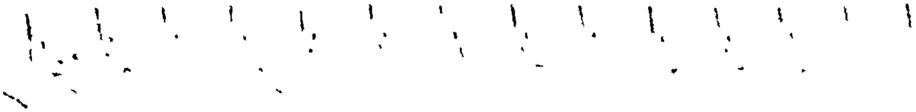
FIG. 3.



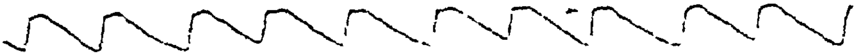
[illegible]

FIG. 4.



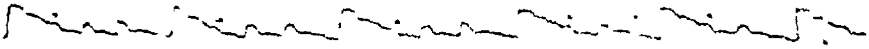
Male, aged [illegible] years. [illegible]

FIG. 5.



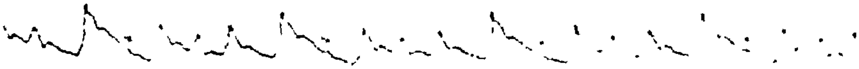
Male, aged [illegible] years. [illegible]

FIG. 6.



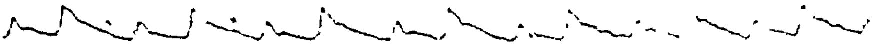
[illegible] pulse in case of Gra[illegible] [illegible]

FIG. 7.



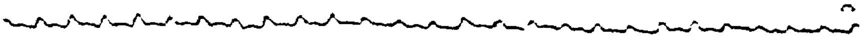
Same patient. [illegible]

FIG. 8.



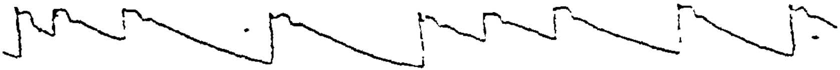
Same patient. Large [illegible]

FIG. 9.



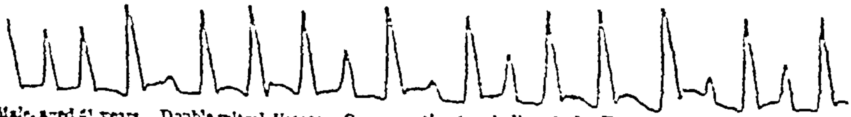
Same patient during an attack of acute bronchial catarrh. Small, [illegible] irregular, low tension pulse.

FIG. 10.



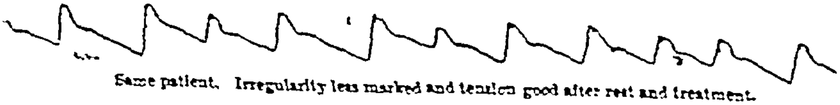
Female, aged 52 years. Disseminated sclerosis. Normal heart. Two premature pulsations following normal pulsation and followed by long pause and then large pulsation.

FIG. 11.



Male, aged 41 years. Double mitral disease. Compensation much disturbed. Very irregular, low-tension pulse.

FIG. 12.



Same patient. Irregularity less marked and tension good after rest and treatment.

increased frequency of the beat of the heart may cause it to become quite regular for the time being.[4]

2. The presence of malignant disease[4] in any part may give rise to increased frequency of the pulse-rate without there being any rise of temperature, but upon what this depends is unknown.

3. Affections of the heart, valvular disease, chiefly mitral, some cases of myocardial degeneration, dilatation from causes other than those of valvular lesions, and many of those conditions included under the term "heart strain," may be associated with rapid pulse.

4. Functional disturbance of the heart's action such as may be produced by mental emotions of various kinds, may give rise to increased frequency of the pulse. In hysteria and neurasthenia a frequent pulse is not uncommonly found. In the condition called "paroxysmal tachycardia" sudden attacks of greatly increased frequency of the pulse occur at variable intervals, 200 or more beats per minute being frequently found; after lasting a variable time the attack passes off suddenly. These attacks may occur in persons in whom there can be found no demonstrable lesion of the heart and nothing definite is known as to the cause of these phenomena. Some suppose they depend upon stimulation of the sympathetic, others that they are due to suspension of the inhibitory action of the vagus. Mackenzie[4] thinks that many of these cases are produced by the occurrence of a series of premature systoles of the ventricle, as he has found that in many of such cases he has been able to demonstrate groups of premature systoles, interrupted here and there by beats of a normal character.

5. Exhaustion from whatever cause arising is often accompanied by increased frequency of the pulse; for example, after severe muscular fatigue and in the latter stages of many chronic diseases. In shock and sometimes in the anæmias, especially chlorosis, the pulse may be abnormally frequent.

6. Certain organic nervous diseases are often associated with a pulse of increased frequency; in persons dying from cerebral hæmorrhage, in the terminal stage of meningitis, and in the early stage of locomotor ataxia a rapid pulse is often found to exist, in the first two cases owing most likely to some disturbance of the vagus centre.

7. In exophthalmic goitre tachycardia is one of the cardinal signs and often a very early one. In this disease the pulse-rate is generally over 100 per minute, sometimes 200 or more; in addition, the tension is low and the beats small. Another peculiarity of the pulse in this affection is the extreme variability of its frequency, even within a few seconds; in a case recently under my care its rate would frequently drop from 160 or more beats per minute to the normal within a few seconds and from this patient I have obtained tracings exhibiting bigeminal, trigeminal, and quadrigeminal characters, and two beats of the heart to one at the wrist was frequently to be observed. The fact that the administration to animals of large doses of thyroid substance will cause tachycardia and other symptoms resembling Graves's disease in man[11] tends to show that the rapid pulse met with in this disease may be dependent upon either a diminution or suspension of the inhibitory function of the vagus or an excessive stimulation of the sympathetic, whether this be produced by the circulation in the blood of an excessive amount of the normal thyroid secretion or of some of the products of abnormal activity of this gland.

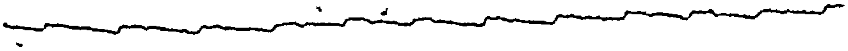
Abnormally slow pulses.—Slowness of the pulse is only a relative term, since what might be considered slow for one person might be normal for another, both being in perfect health. A pulse of less than 40 beats per minute is of uncommon occurrence, though cases have been described in which only six beats per minute have been observed.[17] In all cases of infrequent pulse it is important to auscultate the heart at the same time as counting the pulse, since many of these cases are due to the fact that the heart at regular or irregular intervals contracts too feebly to cause a wave of pulsation to be felt in the peripheral arteries. What are the pathological conditions giving rise to these pulses? 1. Whatever causes a rise of blood pressure tends to cause a slowing of the pulse-rate; thus, in acute and chronic forms of nephritis and in certain forms of arterio-sclerosis, where a high blood pressure is the rule, the pulse-rate is commonly lowered, possibly a result of stimulation of the vagus centre by the high blood pressure. 2. The retention or accumulation in the body of certain products of an irritant nature; under this heading may be included those cases of infrequent pulses met with in chronic gout, chronic dyspepsia, constipation, jaundice, and also after the excessive use of such cardiac poisons as tobacco. Whilst in some of these cases the way in which the infrequent pulse is produced is unknown, in jaundice, according to Wickham Legg,[12] it arises as a result of the action of the cholalic acid on the ganglia of the heart. 3. Nervous affections. In both functional and organic diseases an infrequent pulse is sometimes observed; thus it may occur in attacks of minor or major epilepsy and in that combination of symptoms the Stokes-Adams's syndrome forms a characteristic feature. In cases in which there is an increase of the intracranial pressure, as in cerebral hæmorrhage, abscess or tumour of the brain, and meningitis with effusion, it is often less frequent than normally, most likely the result of stimulation of the vagus centre in the medulla. That in cases of cerebral tumour the increase of intracranial pressure is the main factor concerned in the production of the infrequent pulse has been shown by the fact that after trephining, and thus diminishing the pressure within the skull it becomes more frequent.[14] In some cases of mental disease, as in melancholia, some cases of general paralysis, and some forms of mania, the pulse is sometimes less frequent than normal, but in what way these diseases and an infrequent pulse are associated is unknown. 4. Exhaustion of the physical or mental powers. In convalescence from prolonged illesses, after recovery from attacks of acute febrile diseases, after severe muscular or mental exertion, in the early stages of shock,[15] and after severe bouts of pain, the pulse is liable to undergo some diminution in rate. 5. Chronic bronchitis and emphysema are stated to give rise to infrequent pulse but how this effect is produced is quite unknown. I have had under my care recently a boy with well-marked emphysema of the lungs and whose pulse was, in the intervals between the attacks of bronchial catarrh from which he frequently suffered, considerably below the normal in rate and generally averaging about 46 beats per minute. 6. In certain degenerative changes in the heart muscle, such as fatty or fibroid changes, a sign which is sometimes but by no means constantly present is diminution of the pulse-rate.

There are three ways in which infrequency may be produced. 1. The heart as a whole may beat at a less frequent rate than it normally should. 2. Some of the ventricular contractions may be too weak to send a wave of pulsation to the peripheral arteries and if these weak contractions occur sufficiently often and at regular intervals we have produced an infrequent, regular pulse. In the case of a woman with mitral disease who had long been under treatment with digitalis for failing compensation I found on several occasions that with an infrequent pulse the heart was beating in couples twice as quickly, the latter beat in each couple being too feeble to cause a pulsation to be felt in the radial artery; this condition disappeared when the digitalis was stopped. In the case of Graves's disease already referred to, although the pulse-rate never fell below normal, yet on many occasions I have found that with a relatively infrequent pulse the heart was beating at double the rate. 3. Although the auricles may beat at a normal rate the ventricle may fail to respond to every auricular contraction; if this occur at varying intervals we obtain an irregular pulse; if at regular intervals and sufficiently often an infrequent pulse results. In a series of recent experimental observations Mackenzie[16] has shown that some cases of bradycardia at least result from this cause and the failure of response of the ventricle to every auricular contraction he considers due to the incomplete recovery of the conducting property of the muscle fibres at the point of union of auricle and ventricle.

Just as there are cases in which the pulse-rate may at varying intervals become very rapid so there are cases in which it may be greatly diminished in frequency—so-called "paroxysmal bradycardia." In a case of this description described by Dr. John Hay,[13] although the pulse at the wrist varied from 17 to 30 beats per minute it was believed that the auricles were contracting much more frequently; on post-mortem examination there was found to be a great thinning of the tissues connecting the auricle to the ventricle. From this it was concluded that the stimulus to ventricular contraction, which normally spreads from the auricle, was unable to pass over this thinned bond of union and having, therefore, to originate in the ventricle itself an infrequent contraction of this chamber and a corresponding pulse were the result.

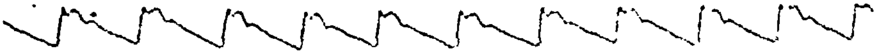
Pulses of increased tension.—What constitutes normal tension? Every individual has a certain pulse tension which

FIG. 1.



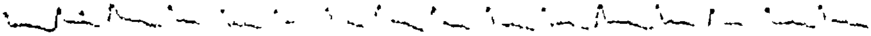
Female, aged 1[illegible] years. [illegible] Arteries [illegible] High tension pulse. ([illegible] dicrotic wave.)

FIG. 2.



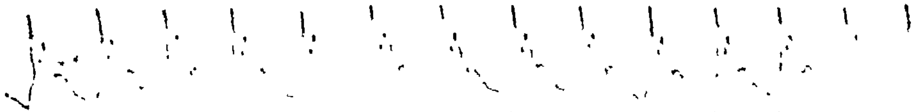
Same patient, one week later. Arteries larger. High tension well marked. (x = dicrotic wave.)

FIG. 3.



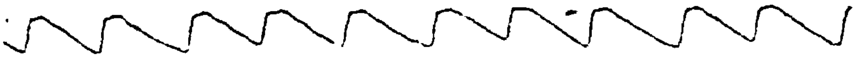
Same patient, [illegible] Tension [illegible] marked. (x = dicrotic wave.)

FIG. 4.



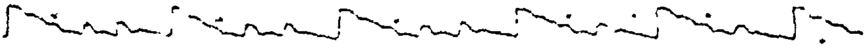
Male, aged [illegible] years. Arterial sclerosis. High tension pulse. (x = dicrotic wave.)

FIG. 5.



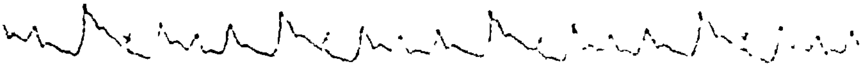
Male, aged 1[illegible] years. [illegible] High tension pulse.

FIG. 6.



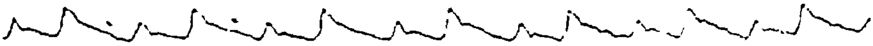
Irregular pulse in case of Graves's disease. Dilated heart. Large pulsations followed by (x) small ventricular contractions.

FIG. 7.



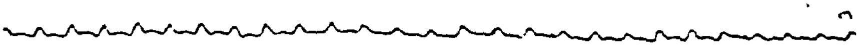
Same patient. Large pulsations followed by very small pulsations and then by (x) small ventricular contractions.

FIG. 8.



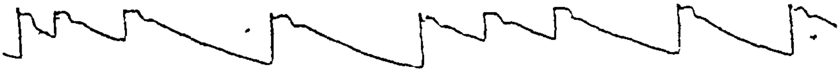
Same patient. Large pulsations followed by (x) small ventricular contractions.

FIG. 9.



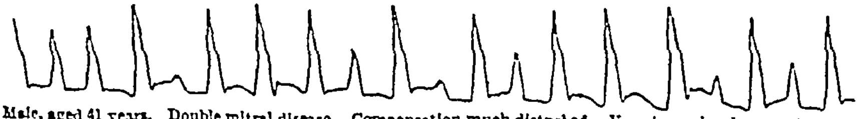
Same patient during an attack of acute bronchial catarrh. Small, slightly irregular, low tension pulse.

FIG. 10.



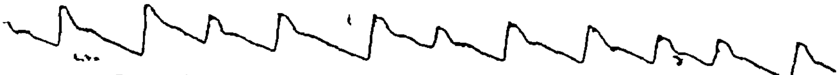
Female, aged 52 years. Disseminated sclerosis. Normal heart. Two premature pulsations following normal pulsation and followed by long pause and then large pulsation.

FIG. 11.



Male, aged 41 years. Double mitral disease. Compensation much disturbed. Very irregular, low-tension pulse.

FIG. 12.



Same patient. Irregularity less marked and tension good after rest and treatment.

although normal for the individual in question may not be so for another person and it is only by the examination of a large number of healthy persons and noting the great variations which may occur in the characters of their pulses that any definite idea of the limits of normal tension can be arrived at. Mahomed's[15] rules for the detection of high tension are: (1) in a sphygmogram, if any part of the tracing rise above a line drawn from the apex of the percussion wave to the bottom of the dicrotic notch high tension is present; and (2) if the systolic period of the pulse tracing occupy more than two-fifths of the whole duration of the curve a high-tension pulse exists. Both these rules are very useful, especially from the fact that they admit of easy application. In a well-marked high-tension pulse the following characters may be noticed: the pulse, which may be large or small, according to the force of the ventricular contraction and the relaxation or retraction of the arteries; the vessel feels full between the beats and considerable pressure is required to annihilate the pulsation in it. In a sphygmogram we find the downstroke of the primary wave is generally less abrupt than in a normal tracing, the predicrotic wave is often well marked, especially in renal cases, and the dicrotic notch, sometimes well marked, at other times hardly visible, is high above the base line.

Theoretically, high tension may arise in many different ways; in practice, however, three chief modes are concerned. 1. Increased force of the ventricular contraction, such as occurs during severe muscular exertion; this is of especial importance in cases where the arteries are extensively degenerated, since it may undoubtedly induce rupture of such vessels or favour their yielding. 2. Increase in the volume of blood in the heart or vessels, either indirectly by the absorption of large quantities of fluid from the intestinal tract, or directly by infusion of solutions of various kinds into the vessels, such as is often employed in shock. 3. Increase of the peripheral resistance. This may be induced by spasm of the arterioles of a temporary character, such as occurs during rigors, when the body is exposed to great cold, in migraine, &c. In certain organic diseases a high-tension pulse is a prominent sign; it is usual in acute and chronic Bright's disease, in granular kidney, in chronic gout with which interstitial changes in the kidney are often associated, in some cases of diabetes,[3] angina pectoris, and arterio-sclerosis. In acute Bright's disease at first the arteries are considerably retracted and the pulse feels small; high tension is, however, present almost from the beginning; later, the vessels become larger but high tension continues as long as the disease is in progress, subsiding gradually as recovery occurs. In a sphygmographic tracing the predicrotic wave is generally very well shown and the pulse is somewhat infrequent. In chronic Bright's disease (including the granular kidney), especially the latter, high tension is usually most marked, and in addition there is usually considerable thickening of the coats of the arteries. The cause of the high-tension pulse found in these kidney affections appears to be retraction of the circular muscular fibres of the smaller arteries, resulting from the presence in the blood of bodies of a poisonous nature;[23] that it does not depend upon the changes in the kidney seems probable from the fact that in tuberculous disease of these organs, where large portions of the kidney substance may be destroyed, and in waxy disease high tension is not the rule.[15] In the more chronic cases, however, probably the main factor producing obstruction to the circulation of the blood and a consequent high tension is a general fibrosis of the coats of the small vessels.

In cases where the resistance to the flow of blood through the arterioles is increased by spasm of their muscular coats or by thickening and rigidity of their walls, in order to supply the tissues with an adequate quantity of blood, the force of the ventricular contraction must be increased; when this increase of peripheral resistance is of a temporary nature it is overcome by the utilisation of some of the reserve power which the cardiac muscle normally possesses; when the increase is more permanent the reserve power of the heart is unable to cope with the increased amount of work thrown upon this organ; to do this the power of the heart must be absolutely increased and this is brought about by hypertrophy of its muscular walls. By these means the circulation is efficiently maintained and the blood pressure is kept high; ultimately, however, either from an increasing obstruction to the blood-flow through the smaller arteries or to the limits of cardiac hypertrophy having been reached, disturbance of this perfect compensation arises, the heart muscle yields, dilatation sets in, the blood pressure falls, and the circulation is no longer efficient.

In pregnancy the pulse tension is raised[26] and here cardiac hypertrophy, increase in the volume of the blood, and pos- sibly the retention of effete matters in the blood, may al assist in its production. In some cases of anæmia, especially in the "secondary" anæmias and in certain cases of angin pectoris, high tension is present, in the latter often a result o general arteriole spasm.

Pulses of low arterial pressure.—In a well-marked case o low arterial pressure the pulse assumes the following characters: both the impact of the pulse wave and it subsidence are sudden; when the arterial pressure is very lo the finger may feel merely a slight tap as the pulse wav passes[4]; between the beats the vessel feels empty. Th condition of the dicrotic wave varies. In some cases it i very well marked and may be almost as large as the primar wave; at other times, especially in those cases in which th arterial pressure is very low, it may be scarcely discernible the bottom of the dicrotic notch is close to the base line o the tracing and the predicrotic wave is either absent or il defined.

As with pulses of high tension, there are three chie factors concerned, either single or together, in the pr duction of low arterial pressure. First, feebleness of con traction of the heart. Amongst the various condition giving rise to this may be mentioned exhaustion of th general physical tone in whatever way produced, prolonge fever and the action of toxins of bacterial origin, such a may arise in acute febrile diseases, and degeneration of th muscular tissue of the heart or dilatation of its chamber the ultimate effect of all of which is to lessen the power o the heart. Secondly, diminution of the volume of blood i the heart and vessels. Loss of large quantities of blood, a for example, during surgical operations, and draining away o large quantities of liquid from the body, such as occurs i prolonged vomiting or diarrhœa, may all help in producin low arterial pressure. Thirdly, diminution of the per pheral resistance by dilatation of the arterioles. I fever such a condition is present and the tension of pulse originally high may on the occurrence of an acut febrile process be much lowered, though whether or no any serious diminution of arterial pressure may in thes cases be brought about by such means is doubtful. I shock the low arterial pressure found has been considered t be due to a vaso-motor exhaustion[19] and a relaxation of th peripheral vessels; on the other hand, it has been argue that there is no relaxation but an actual contraction of th arterioles in shock and that the low blood pressure whic arises is produced by a later relaxation of the vessels of th internal parts.[23]

It may here be mentioned that high and low tension pul are, after all, only relative terms—one person may hav habitually a pulse of high pressure and another one of lo pressure and yet both may be in perfect health. The limits o normal tension are wide and when in A the tension is foun to be high and in B low due consideration must be allowe for individual variations, and unless the diminution or i crease in arterial pressure be marked probably not muc importance should be attached to these variations unle other indications of disease appear.

Pulse irregularity.—Mackenzie[4] divides pulse irreg larities into two varieties: first, the youthful form, i which the systolic period of the pulsations is quite regul but in which the length of the diastolic periods varies; thi he finds, occurs in some cases of slowing of the pulse aft infancy and after febrile diseases; and, secondly, the adu form of irregularity, in which premature systoles of th ventricle occur, and according to the number and times o occurrence of these imperfect ventricular contractions man different forms of pulse irregularity are to be met with. a premature systole occurs soon after every full beat an is followed by a pause we have produced the "puls bigeminus," a form not uncommonly found in cases o mitral disease and as an effect of the action of digitalis. is also said to be frequently present in those cases of musc failure of the left ventricle, from whatever cause arising. When two premature systoles occur after every full beat w have produced the "pulsus trigeminus," when three th "pulsus quadrigeminus," and according to the time o occurrence of these premature ventricular contractions man different forms of pulse irregularity may appear.

Amongst the numerous causes of irregularity may b mentioned nervous excitement, palpitation of the heart, an exhaustion of the physical or mental powers; pressure upon, or displacement of, the heart, as may occur in cases of flatulent distension of the stomach or intestines is also said to be a cause of pulse irregularity. I am rather sceptical of this mode of origin of irregular heart action, as in many cases of pleural effusion or ascites where pressure upon, or displacement of, the heart may be marked the heart does not often become irregular unless other conditions exist which may produce it. The excessive use of such articles as tea, coffee, and tobacco may cause an irregular pulse.

In a state of health the respiratory movements have no definite influence in affecting the character of the pulse-tracings. In some cases of disease where there is an interference with the free entry of air into the lungs during inspiration the beats become small, to increase again in size with expiration; I have found such a pulse in a case of pneumonia complicating subacute rheumatism. In the pulsus paradoxus this diminution in the size of the pulsations during inspiration becomes very marked and the pulsations may even disappear during inspiration; at one time supposed to arise as a result of a constriction of the aorta by fibrous bands, which during inspiration might constrict the lumen of this vessel, such an explanation will not suffice, as this kind of pulse has been found in other conditions which by themselves could not act in this way. It has been found in cases of chronic mediastinitis, of which it is supposed to be an important sign, in cases of mediastinal tumour, in mitral incompetence with dilatation of the heart, and in other conditions. It has been found in one radial only.[1] At present we do not know in what way it is produced.

As a more or less permanent condition pulse irregularity occurs in valvular disease of the heart, especially in mitral lesions, in degenerative changes in the heart muscle, in dilatation, and in some cases of meningitis. The pulse irregularity which is common in the later stages of mitral disease Mackenzie[1] thinks is due to a partial paralysis of the left auricle; from this results an irregular discharge of blood from this chamber, irregular stimulation of the ventricle, and consequently an irregular pulse.

In some cases of irregular pulse the whole heart participates in the irregular action; in others the irregularity is apparently confined to the ventricle. In a recent paper Mackenzie[2] has shown that he has experimentally been able to verify the statement of Wenckebach, that when one of the functions of the heart muscle is depressed an irregularity peculiar to this function would be found. He investigated the condition of, conduction of the muscle fibres between the auricle and ventricle and he did this by taking tracings from the jugular vein (which show auricular and carotid pulses) and comparing them with tracings from the radial artery taken at the same time. The period of time intervening between the commencement of the auricular contraction and the carotid beat, which normally occupies one-fifth of a second, he finds may be increased without there necessarily arising irregularity of the pulse. In some cases, however, of irregular pulse he has found that this interval of time may be progressively increased, and indicating, as it does, a depression of conductivity of the muscle union between auricle and ventricle, the stimulus to contraction may at times be unable to pass over from auricle to ventricle and a missed beat results. If this depression of conductivity occurs at regular intervals the ventricle may fail to respond to every auricular contraction and a slow pulse may result.

Lastly, pulse irregularity is said to occur in some persons who are apparently in perfect health and in whom no cause for this abnormality can be found.

The pulse in cardiac disease.—With the exception perhaps of aortic regurgitation, there is no disease of the heart which can be said to give a pulse in any way characteristic of the morbid lesion. The typical pulse of incompetence of the aortic valves is one which arises and subsides suddenly—the so-called water-hammer pulse. In a sphygmogram we find a sudden and generally large upstroke followed by a rapid fall, these characters depending upon a great and sudden increase of pressure in the artery produced by the hypertrophied ventricle and the sudden lowering of arterial pressure, the result of the regurgitation back into the ventricle of a quantity of blood which normally should be propelled on into the distal vessels. The dicrotic wave varies. When the regurgitation is marked this wave may be almost or entirely absent; with less regurgitation it may be well shown. Broadbent[3] says that the pulse in this disease depends a good deal upon its mode of origin; if arising from endocarditis characters already noted; if due to atheroma and associated with aortitis deformans, although the wave arises and subsides quickly, there is no real collapse. It seems to me that these differences depend upon the presence or absence of stenosis of the aortic orifice; if stenosis be absent, as it may be in those cases resulting from endocarditis, the pulse will be of the water-hammer type; if, on the other hand, stenosis be present, then the up and down strokes of the pulse tracings will be much less abrupt, the collapsing character will be much less marked, and the summit of the primary wave will be more rounded.

In stenosis of the aortic orifice the pulse wave arises in a slow, deliberate way, the narrowing of the orifice preventing the full effect of the ventricular contraction being felt at once in the aorta[4]; in a sphygmogram we find a sloping upstroke with a broad summit; there is not the sudden subsidence of the wave as in the previous condition. It is in this form of valvular lesion that "anacrotic" tracings are commonly found to occur; they are, however, not characteristic of this affection. In some cases the apex of the primary wave is divided into two parts constituting the "pulsus bisferiens," the mode of production of which is doubtful, some thinking it indicates that the ventricle contracts in two stages, others that it is an artificial production.[5] In one case reported it was found on one side only and no definite cause for this unilateral condition was found.[6]

In mitral disease, either stenosis or regurgitation, the pulse exhibits no special characteristics. Theoretically, one might suppose that in stenosis the pulse would be small, but this is by no means the rule. In both forms of valvular defect, when compensation is well maintained the pulse may be quite normal in character. In the later stages, with excessive dilatation of the left auricle, it tends to become rapid and to exhibit marked irregularity in both size and time; the tension, also, in the later stages is apt to become very low.

Dilatation of the heart from other causes than those of valvular defects brings with it no characteristic changes in the pulse, any changes that may be found depending upon the side of the organ affected and on the cause giving rise to the dilatation.

The pulse in aneurysm.—In cases of aneurysm of the aorta involving that portion of the arch between the origins of the innominate and the left subclavian arteries, important differences may be found in the pulses in the two radial arteries, these differences depending upon compression of the left subclavian by the aneurysmal sac or by obstruction of its lumen by blood clot or narrowing of its orifice by atheromatous changes, and unless some such obstruction exist no difference in the two radial pulses may be found.[7] Compression of a vessel by tumours may produce exactly similar alterations of the pulse as are produced by aneurysm. As a result of the obstruction to the flow of blood along a vessel affected in any of these ways, the pulsation in the vessel beyond the obstruction appears more gradually and reaches its maximum more slowly than that in the corresponding vessel of the opposite side. In a sphygmographic tracing this is well seen, and further, such a tracing shows a rounded summit and a downstroke almost or entirely devoid of secondary waves. In some cases this obstruction of the lumen of the vessel may be so marked as almost to annihilate pulsation in it; this was well shown in a case I had recently the opportunity of examining. The patient, a man, aged 55 years, with the physical signs of aortic regurgitation, developed inequality of the radial pulses, the left being smaller and exhibiting a tracing indicative of obstruction to the free passage of blood into it. On the day preceding death the pulsation in this vessel could hardly be distinguished, that in the right radial remaining large and of its usual characters. On post-mortem examination, a fusiform aneurysm was found involving the aorta, extending from the origin of the left subclavian to a point about two and a half inches beyond. On opening up the aneurysmal sac, which contained some partly organised clot, the orifice of the left subclavian artery was found to be almost entirely obstructed by clot, removal of which showed an orifice just large enough to admit a probe.

Is there delay of the pulse in the vessel beyond an aneurysm? Certainly, from digital examination of the radial arteries in a case such as the one I have already described and a comparison of them, one gets the impression that there is. Mackenzie, however, thinks this delay is apparent only and that it is due to the fact that in the vessel beyond the aneurysm the maximum force of the beat is not attained so suddenly as in the corresponding vessel of the opposite side. Further, he has shown that in aortic regurgitation, in which the pulse has been supposed to be delayed, such is not the case. By comparing tracings obtained from the apex beat and radial artery of patients suffering from this disease with similar tracings obtained from persons in whom there was no disease of the heart, he has found that the period of time intervening between the apex beat and the radial artery pulsation, is the same in both.

Conclusions.

The arterial pulse represents in the main the sudden increase of pressure occurring in the arteries as a result of the ejection into them of the contents of the left ventricle, and it travels from the heart to the peripheral parts in the form of a wave, diminishing in size as it passes along. The pulse curve represents the changes occurring within the artery at the part under examination. We have seen that its form varies according to the force of the contraction of the ventricle, to the blood pressure, to the condition of the vessel wall, and to the distance of the vessel from the heart. This sudden increase of pressure in the arteries having reached its maximum is followed by a fall, the fall, however, being interrupted by a slight increase of pressure as the dicrotic wave appears; it then returns to the normal.

We have seen that the dicrotic wave, whilst not capable of being fully explained, still appears to arise as a positive wave from the closed aortic valves; of the other secondary waves we know very little about their modes of origin. Further, we have seen that the factors concerned in the regulation of the normal pulse, and disturbance of which may cause the pulse to assume various forms of abnormality, are the integrity of the heart muscle and maintenance of its functions, the condition of the vessel walls, the state of the arterioles and the nervous mechanism regulating and controlling the heart beat, and the state of contraction or relaxation of the circular muscular fibres of the arterioles In some forms of abnormal pulses the channel by means of which such abnormality is brought about is evident; in others we have to rely on conjecture.

Of pathological pulses few, if any, are characteristic of the diseases producing them; in the large majority of cases no specific alterations are produced.

Of alterations in the tension it is in arteries which are either naturally small or are abnormally retracted that one is apt to overlook high tension, and I think that in such cases as these the sphygmograph is especially useful, since it may demonstrate high tension hardly appreciable to the finger.

In some cases of disease the pulse affords us valuable assistance in prognosis; it often indicates the necessity for the exhibition or withdrawal of drugs and affords us commonly a guide to the rational treatment of many diseases associated with circulatory disturbances, and upon our ability to recognise the indications for treatment derived from our examination may the success of our efforts rest.

In these few remarks I have endeavoured to set forth some of the prevailing ideas as to the nature of the arterial pulse both in health and disease, illustrating my remarks by reference to a few of my cases which have shown any special peculiarity. I have, wherever possible, taken sphygmographic tracings from patients whom I have been able to keep under observation for some time and some of them I exhibit this evening.

[Over 60 sphygmographic tracings, illustrating different forms of pulses, were shown during the lecture.]

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A Clinical Lecture

ON

THE "ACUTE ABDOMEN."

Delivered at St. Thomas's Hospital on March 1st, 1906,

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Gentlemen,—When the third lecture of this series[1] had been given and the largest part of the subject considered to which the term "acute abdomen" has been applied, it seemed that a group of cases in which disease of the female pelvic organs plays no inconsiderable a part would have to be omitted. This might appear of slight moment, for these conditions are dealt with in the lectures given by my colleagues in the department for diseases of women, but the more urgent complications of these diseases come under care in the surgical wards, usually without the formation of a diagnosis. The "acute abdomen" may arise from a pyosalpinx, the bursting of the sac of an ectopic gestation, the acute necrosis of a fibroid of the uterus, the twisting of the pedicle of an ovarian cyst, or the rupture of the cyst into the general peritoneal cavity. To-day I wish to bring to your notice the account of a patient who was recently admitted for acute abdominal symptoms due to a ruptured pyosalpinx and afterwards remind some of you of other cases formerly under treatment in my wards which show when it is necessary to explore the abdomen after the onset of symptoms due to pelvic mischief which has become acute. There is a certain amount of similarity in the symptoms caused by a ruptured pyosalpinx and those due to a ruptured ectopic gestation, and it is to a consideration of the more acute abdominal complications of these affections that I wish to limit my observations to-day.

The account of the case to which I have already referred is that of a patient who is under treatment in the Beatrice Ward. She is a woman, aged 21 years, who was admitted under the care of Dr. H. W. G. Mackenzie on Feb. 20th, 1906, early in the afternoon. The history of the case was that she had been suddenly seized with abdominal pain during the night of the 19th. This pain had been very severe, had been in the upper part of the abdomen, and she had vomited. She had had a meal of pork during the previous evening. At 4 o'clock in the morning a medical man was sent for who gave her some medicine which she vomited. In her previous history there was an account of indigestion of indefinite character some years ago. There had been a profuse vaginal discharge for some months and the menstrual period was a fortnight overdue. There had been no action of the bowels for two days.

When seen in consultation with Dr. Mackenzie late in the afternoon the patient was lying on her back looking very ill and anæmic and seemed collapsed, drowsy, and apathetic. There was a small circular flush on each cheek. The skin was dry. The respirations were somewhat quickened (24) and the pulse was 110. The temperature was 101 4° F. She complained of pain in the abdomen. This was found to be moving quite well in the upper half but was less mobile than usual in the lower part. On palpation it was quite soft all over but there was much complaint of tenderness, especially in the iliac region and right side up towards the liver. Nothing abnormal was found, the abdominal wall being quite without rigidity or even resistance of muscle to palpation. On percussion the note over the whole abdomen was normal. The liver dulness was normal. At 5 30 abdominal exploration was carried out, an incision was first made in the epigastric region and the stomach and duodenum closely examined. The hand was then passed downwards to the iliac fossa and appendix region and onwards to the pelvic organs. A tumour was felt to the left of the uterus. This was recognised as a pyosalpinx and it was thought that a rupture of this would account for the condition. A second incision was made in the middle line above the pubes and when the peritoneum was opened free, thin, somewhat viscid, odourless pus was found extending from the pelvis into the flanks. The intestines were packed off with strips of sterilised gauze and the pyosalpinx was removed after the application of three (No. 4) silk ligatures. There was no inflammation of the peritoneal coat of the intestine and no lymph was seen. The area of infection was cleansed with moistened sponges and drainage was provided by a red rubber tube and a strip of gauze. The right ovary was somewhat fixed by adhesions which were freed, but appeared to be healthy, as did also the tube on that side. The upper wound was sutured in layers by Mr. J. H. Bletsoe, the house surgeon, whilst the pelvic condition was being treated. The pyosalpinx formed a tumour of the size of a hen's egg, the walls of the Fallopian tube were much thickened, and there had been a rupture of the tube not far from the ostium abdominale, which itself had been closed by adhesion to the broad ligament. The ovary formed part of the inflammatory mass removed and could only be distinguished on dissection. The plug was removed on the 24th; there was a small amount of discharge which was quite clear. The bowels acted twice and she was doing well. The pulse was 76 and the temperature was normal or subnormal; since the operation pain was quite relieved. (This patient continued to progress satisfactorily and left the hospital on March 13th.)

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[1] The previous lectures were published in The Lancet of Jan. 27th (p. 201) and Feb. 3rd (p. 273) and 17th (p. 429), 1906, respectively.

Pyosalpinx is recognised as the most important condition giving rise to peritonitis having its origin in the pelvis, repeated localised attacks being common. As a source of diffuse spreading peritonitis it is less common, for the thickened tube does not often rupture as it did in this case and allow the purulent contents to spread into the general cavity of the peritoneum. There can be little doubt that the gonococcus is extensively diffused by the rupture of the tube and although Mr. Leonard S. Dudgeon and Mr. P. W. G. Sargent[2] conclude that it possesses a slight pathogenicity when introduced into the peritoneal cavity, it does produce a peritonitis which may be ultimately fatal. We must endeavour to operate before peritonitis sets in; the prognosis is thereby much improved and the duration and severity of the illness are diminished.

None of those who saw the extent to which purulent diffusion had taken place in this patient doubted that diffuse peritonitis must have ensued had operation been delayed. It was the aspect of severe illness with the history that induced Dr. Mackenzie to suggest the desirability of exploration, for local signs of the gravity of the attack were absent. There was no trace of protective rigidity of muscle, whilst the tenderness found was not in any way remarkable. Nothing indicated the probable origin of the symptoms, and although the epigastric region was explored this was in deference to the history of former indigestion, with a recent heavy meal, rather than to any idea that stomach ulceration had really given way, for there were no localising signs. I have stated that the appendages on the right side appeared to be healthy and were therefore not removed; it was probably right to leave them but the result of so doing in a case formerly under my care in which a pyosalpinx had given rise to intestinal obstruction has made me less confident of this than I might otherwise have been. The appendages on the left side appeared normal and were therefore left, but the woman returned with septic peritonitis, the result of a rupture of the tube, in the following year.

A woman, aged 28 years, was admitted under the care of Dr. Mackenzie on Jan. 31st, 1903. She stated that she had been quite well until the 25th when she was taken ill with pains all over her. The attack passed off but came on more severely at 4 A.M. of the 25th and was accompanied by severe pain in the right hip which spread all over her abdomen. On admission the abdomen was distended and did not move well on respiration and the patient looked ill. The abdomen was not tender; it was easy to examine but nothing abnormal was detected on palpation. Examination per rectum showed nothing unusual. The temperature was 100·6° F. and the pulse was 104. On Feb. 3rd she had an attack of abdominal pain with vomiting, there being visible distension of small intestine and peristalsis. The bowels acted well just before the attack. Operation was advised because it was recognised that she had recurring attacks of obstruction due to a mechanical condition, but she refused until Feb. 6th when another rather more severe attack of pain and vomiting induced her to think more seriously of her illness and give her consent.

Incision was made through the right rectus sheath and the muscle was temporarily displaced. On opening the peritoneum a coil of small intestine was found to be distended and to pass down into the pelvis which seemed strangely full. At first it appeared as if the uterus was very large and smooth-walled, but further examination showed the swelling to consist of two parts, a softer one to the right, and when the finger was passed into Douglas's pouch a groove could be felt marking a division between them. The pelvis was packed off with sponges and a large pyosalpinx, which ruptured during the process, was brought outside, separated from its attachments, and removed. The pus was very offensive. The ovary was lost in the mass removed. The left side appeared to be normal. The loop of obstructed gut was found adherent to part of the boundary wall of the pyosalpinx which had been left behind—it was kinked from before backwards; another loop also adhered to this part but was not obstructed. These were freed and some omental adhesions were also separated or divided between ligatures. The pelvis and lower abdomen were carefully washed out with warm saline solution and a tube was left in which extended into Douglas's pouch. On the third day some distension of the stomach was present and this was followed by a more or less general meteorism which very gradually subsided under appropriate treatment, although the patient was for a time seriously ill. The tube was removed on the seventh day after operation. She left the hospital on March 14th, 1903.

On Oct. 23th, 1903, the patient was re-admitted to the same ward with symptoms of diffuse peritonitis. She had enjoyed good health since leaving the hospital until three weeks before her return; she then had a menstrual period, followed a week later by hæmorrhage from the vagina which lasted for three or four days. This was followed by acute pain on the right side of the abdomen which spread to the left side. This pain continued for a week and then for the three days previous to her coming up it increased considerably and was again accompanied on the first and third days by hæmorrhage. She had vomited four times on the day of admission but not before. The abdomen was slightly distended but scarcely moved with respiration. The left rectus was rigid and the lower half of the left side. Great tenderness was complained of all over the abdomen. The flanks were resonant. The pulse was 120 and the temperature was 102° F. A tender swelling could be felt per vaginam in the left fornix. Mr. Percy Sargent, who operated, found that the pelvis contained pus, whilst a sero-purulent fluid invaded the lower abdomen. The Fallopian tube was of the size of a thumb; its walls were much thickened and it was distended with pus. The ovary contained a large cyst in which was a blood clot of the size of a Tangerine orange. The lower abdomen was washed out with saline solution. From the history of disturbed *menstrual* function it was thought that the blood clot might represent the remains of an ovarian gestation but careful examination in the clinical laboratory did not confirm this idea. The case was essentially one of peritonitis with much purulent effusion without any hæmorrhage. The patient made a good recovery.

Another part of this subject—that of ectopic gestation and its rupture as a cause of the "acute abdomen"—introduces us to additional symptoms: those caused by the increasing accumulation of blood in the peritoneum and the effect of its loss from the circulation on the general state of the patient. The rapidity with which it is poured out and the effect of this are sometimes so great that the patient dies as suddenly as if a deadly poison had been taken. Luckily, most of the victims of this accident are not so quickly overwhelmed and time is given for attempts at a rescue. It is not my intention to enter into a discussion of extra uterine gestation, its varieties, diagnosis, modes of ending, &c., but simply to introduce the subject as it occurs in actual practice as a surgical emergency, so that you may be able to recognise and successfully to treat it. Of the more severe cases of hæmorrhage I have selected one of rupture of a sac situated in the wall of the uterus in which the symptoms were (as they usually are) very marked and the general state of the patient was a somewhat desperate one. It is a rare position for the sac to occupy, but there is no means of ascertaining this in any case before the abdomen is opened, but the indications for operation are the same as in examples of the much commoner accident—rupture of a tubal gestation.

A married woman, aged 35 years, was admitted under the care of Dr. Mackenzie on April 23rd, 1903, on account of acute abdominal symptoms. Her history was as follows. She was treated in a London hospital nine years before for "peritonitis" after a confinement. About a month previously she began to suffer from attacks of vomiting which came on especially after food, which she was unable to retain. There was also some indefinite pain in the abdomen. A fortnight previously she attended the out-patient department and was treated for gastritis. The abdominal pain got worse and at 4 o'clock on the day of admission she had a very severe attack which doubled her up and later completely prostrated her. She vomited several times and became very pale, cold, and collapsed. During the afternoon she fainted. She was brought to the hospital 13 hours after the onset of the severe pain. She had had five children, four of whom were still living—one died at the age of six years. The youngest was 18 months old. The last menstrual period was six weeks previously; one should have come on about a week before admission. She had always suffered from leucorrhœa, but during the past few weeks she had been worse than ever. On admission she was blanched, emaciated, and in a state of collapse. The abdomen was held rather rigidly and was generally tender, especially in the lower part. In the left iliac region there was a rounded elastic swelling and there appeared to be fluid in the lower part of the abdomen and to a less extent in the flanks. The pulse was 120 and feeble, the respirations were 26 and sighing, and the temperature was 97·2° F. At 8 P.M. a median incision in the lower abdomen about four inches in length was made and the dark colour of the blood could be seen before the peritoneum was incised. When the abdominal cavity was opened there was an immediate gush of blood mixed with clots and the hand was at once passed to the uterus and tubes. The left one was felt to be enlarged and so was brought to the surface. The enlargement was found, however, to be due to a hydrosalpinx, so the uterus and right tube were drawn up for inspection. The uterus was ruptured at a point on the fundus to the inner side of the place where the right tube joined it. The uterus was longer than normal; the opening was about one and a half inches in length and placed transversely. From it there protruded a fluffy mass of delicate moss-like tissue which filled the opening and bulged over the edges. From this place there was a constant oozing of blood. This was evidently placental tissue. It was removed with a curette and the cavity from which it came was scraped out. The opening was then closed with a continuous Lembert suture. This apparently arrested all bleeding. The left tube was then removed and the pedicle was ligatured with silk. The intestines appeared pale, almost bloodless, and contracted. The peritoneal cavity was carefully cleansed of all clots and free blood by saline irrigation and sponging, after which the abdomen was closed. Four pints of saline infusion were injected into the left median basilic vein during the operation with evident benefit. The patient slowly recovered from the shock of the operation and the large loss of blood. On the third day she complained of abdominal distension and pain in the epigastric region due to acute dilatation of the stomach, for which the stomach-tube was employed with lavage. Some distension of the abdomen continued for about three days but the temperature continued normal and the pulse about 100. Convalescence was slow and she did not leave the hospital until June 29th.

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[2] The Bacteriology of Peritonitis, p. 33.

In another case of extra-uterine gestation the diagnosis was rendered difficult because of the history of the illness and the absence of clotting in the blood which had escaped into the peritoneum.

A woman, aged 31 years, was admitted to St. Thomas's Hospital on April 14th, 1904. There was a history of irregular periods and a white discharge on and off between the periods, but general good health until April 8th. She was then seized with a severe internal pain which was so bad that on the following day she was obliged to go to bed; it improved but returned again severely on the 12th. It was most marked on the right side, running up to the right breast and affected the right leg so that it was very painful to move. This pain started with the period which was a fortnight overdue. When the discharge stopped the pain left her but came on again when it returned. She was almost fainting on arrival. On admission she was a pale anæmic woman. The abdomen was slightly distended and tender and it was difficult to examine satisfactorily as she held herself very rigidly. There appeared, however, to be more dulness in the right flank than in the left. On vaginal examination the uterus was found to be normal and freely moveable and a little retroverted; there was no fulness in Douglas's pouch or abnormality of the uterine appendages. The tongue was furred but the bowels were acting. The pulse was 112 and the temperature was 99° F. On the 18th she was again seized with pain in the right iliac region. The vaginal discharge recommenced, being of a red colour. She felt very faint. The pain passed off during the night and on the next morning her temperature was 100·2° and on the following evening 101°. The history, character, and duration of the pain, with the rise of temperature, made it very probable that the appendix was diseased whilst the account of the menstrual irregularities induced Dr. W. W. H. Tate to suggest the possibility of an extra-uterine gestation which was leaking into the peritoneum as a result of some rupture of the sac. On the 29th the operation by temporary displacement of the rectus was performed and a diseased appendix removed after the application of the clamp. As free blood was present in the peritoneum when it was opened and there was none in the pelvis the opinion expressed by Dr. Tate was confirmed and rapid incision in the median line low down gave access to the pelvic organs. The right tube was thickened at one part and from the ostium abdominale hæmorrhage was still proceeding. This was ligatured and removed with the ovary. A tumour of about the size and shape of a pigeon's egg was attached to the left broad ligament. This was excised and proved to be an intra-ligamentous cyst with papillomatous growth inside it. The appendix was catarrhal and was strictured near its base. The right Fallopian tube was enlarged and thickened, the ostium abdominale admitted a little finger, and its mucous membrane was rugose. The uterine end of the tube for a distance of one inch was normal; beyond this it was dilated and contained a large clot which was attached to the upper and posterior part of the interior. No fœtus was found. The right ovary was cystic and contained a recent corpus luteum, besides several old ones. A pedunculated cyst containing blood-stained fluid was attached to the right broad ligament. The incisions in the abdominal wall were closed without drainage after the pelvis had been sponged and flushed with warm saline solution. A week later she complained of pain in the left side of the pelvis and a hæmatocele gradually formed and suppurated, being opened per vaginam about three weeks after the operation. She left hospital quite recovered on June 4th, 1904.

This was, then, a case of tubal abortion, the loss of blood coming from the open mouth of the tube, whilst the unusual character of the pain was explained by the condition of the appendix. There was no sudden seizure as in the patient with intramural gestation, but the result would have been fatal ultimately and I have quoted it as a contrast to the former. In all these cases of operation for hæmorrhage the uterine appendages should be at once examined and if anything abnormal is found brought out of the wound. No attempt to clear away blood clot must be permitted until the source of hæmorrhage is found and its flow arrested. Examine both sides, for there may be a ruptured sac in each tube. As a temporary measure it is advisable to apply clamps to the uterine end of the tube and to the broad ligament beyond.

The sudden onset of an appendix suppuration may simulate the bursting of the sac of an extra-uterine gestation, if there are menstrual irregularity and no marked rise of temperature. A sudden access of symptoms due to bursting of the abscess with collapse simulates a similar condition with renewed hæmorrhage. Some three years ago I was called upon to go into the country at night to see a lady with an acute abdominal illness. *The history* was that *ten* days before when the period was a week overdue she had had a severe attack of abdominal pain with faintness and sickness, from which she had gradually rallied. This had been regarded by her medical attendant as probably due to a rupture of an extra-uterine gestation, but as she slowly improved he did not think that operative interference was called for. On the morning before I saw her she had been again suddenly seized with a similar attack of abdominal pain and became collapsed. The condition of collapse continued when I arrived and was extreme. The pulse was imperceptible, the temperature was subnormal, the extremities were cold, and the patient was restless. On the following morning the condition was not improved and, in fact, for four days she was so ill that it was not thought worth while to take her temperature. As a result of careful tending she recovered so that on the seventh day after I had first seen her it was possible to open a large collection of pus which had been present for the week without much increase in size. There was no blood clot in this and although the appendix could not be found it was regarded as the probable cause for the suppuration. During the closing of the abscess an extension of it to the left of the umbilicus was especially slow in recovering and pus could be expressed from this part when everywhere else the condition appeared satisfactory. At this point adhesions formed between coils of small intestine and I operated for acute intestinal obstruction due to them later in the year. Still later in the same year an attack of appendicitis made it advisable to remove the appendix. The patient has enjoyed good health since.

VACCINE TREATMENT IN SURGERY.[1]

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IT is fitting that evidence on the effects of new methods of treatment should be heard from many sides before such are extolled or condemned. Still better is it that such methods should be tried personally if the principles on which they depend are shown by sensible and reliable workers to satisfy a scientific conscience. About two years ago I heard such evidence with regard to vaccine treatment, founded on Professor A. E. Wright's excellent investigations, and, being satisfied with the authority, have during the past 18 months endeavoured to test such treatment clinically in as fair a way as I could. Hence I have ventured to appear before you to-night to record my experience. I wish to lay facts before you and therefore, where possible, I have had my statements verified by others who have seen the cases. Before putting these facts before you it may be well once again to run over the principles underlying the method of treatment.

By vaccine treatment is meant, roughly, the injection into the patient of quantities of the organisms (dead) which produce the disease. It is found that the resisting power of an individual against the specific organism can be raised with safety by such means. In chronic localised infections or even in some general infections of a chronic character—e.g., Malta fever—sufficient stimulus to successful resistance is wanting. To use such a vaccine during an acute disease would be simply adding fuel to the fire. After such vaccine is injected there is produced a depression in the resisting power—a negative phase—which lasts for a variable time according to the amount or virulence of the vaccine. Following on the negative phase the resistance rises till it is in most cases above what it was before—a positive phase. By repetition of such doses at suitable intervals a cumulative positive phase is usually obtained, so that resistance is much increased. If, however, a second injection is made during the negative phase, this phase is augmented so that harm is done. Hence the necessity to estimate the opsonic power of the patient's serum, which forms a convenient indication of the resisting power, to know when the positive phase is well developed, as then is the time to give another dose. I wish to indicate at this point that if the cycle of events following the injection of a specific vaccine has been estimated a sufficient number of times in different individuals so that one knows the average time required for the positive phase to develop fully, in my opinion it is unnecessary to estimate the opsonic index in most cases. On this idea I have worked for the past seven months and I think it a matter of importance that my results have not suffered therefrom.

Tuberculous disease in its various phases has provided the most frequent test for the efficacy of vaccine treatment. Koch's tuberculin R. differs from the other vaccines used in that the most soluble constituents of the culture are abstracted from it. I have always employed that supplied by Meister Lucius and Brüning, Höchst, Germany. For brevity I shall call it hereafter T.R. It will best serve the purpose to describe the effects of T.R. treatment on the different lesions.

Tuberculous glands.—If these are simply enlarged—not broken down, caseating, or calcified—in every case I have found that the glands disappear after a very few injections of T.R.; in quite early cases no trace of enlargement remains after even only two or three injections. This has been my experience in three cases. One must bear in mind that a surgeon does not usually get such early cases, hence my experience is limited. It is probably impossible to say at first whether caseation has occurred in any given gland, but if the gland, of consistence usual in such cases, has not decreased in size markedly after from six to eight weeks' treatment I have always suspected caseation and at operation this condition has been found. In many of the cases one could compare two or more glands of apparently equal size and consistence. During treatment one or more would so decrease in size as to be impalpable, while the caseating ones would decrease only to a slight extent. If periadenitis, with consequent matting and tenderness, had occurred this usually speedily cleared up. The tenderness disappeared and the glands became more defined and moveable, then smaller in size. If caseation has occurred, operate. Operation need not be vigorous. I have such faith in T.R. that I am going back from my previous attitude in the treatment of tuberculous glands. I used to think that thorough excision, where possible, of all tuberculous foci was the only rational treatment. Now I find that in, e.g., *isolated* caseating glands gentle scooping out of the caseating core is sufficient. If a depressed cicatrix results this may be excised by a very small incision under a local anæsthetic at a later date when the patient is quite sound. If a *mass* of caseating glands exists then excise *en masse* in the usual way. Somewhat similar remarks apply to broken-down fluctuating glands. At first I tested the capabilities of T.R. to cause absorption of the fluid material but in no case did it succeed, although in all the "abscesses" became more circumscribed. If tenderness were present it disappeared and if redness of the skin were present over the gland this lessened or disappeared also. Had fluid been absorbed the condition left would have been at best similar to that in the caseating gland. Hence I think it is waste of time to delay operation long in such cases. In one case I aspirated the fluid contents of the gland capsule and gave an injection of T.R. Where the aspirating needle had been inserted a sinus formed which healed after a second injection, and after a third there was no trace of enlargement. I think that post-operative healing is without doubt promoted by the giving of one or two injections of T.R. before operation, which should take place about the time when a third injection is due. The patient's resistance is higher and the general health is better, hence healing is quicker and operation need be less extensive. In *isolated* suppurating glands a small incision, varying in size according to the depth of the gland, with gentle curetting, is all that is required. After two days' packing with gauze the incision may be sutured if necessary without bad effect. If caseating glands are studded around the softened one it is better to excise the whole affected mass. If the glands are calcified excision is to my mind the only course. One cannot expect T.R. to cause absorption of cretaceous material and one ought to get rid of a source of danger to the patient. If the glands have broken down and infiltration of the skin, rupture of the abscess, formation of sinus, and infection of the focus by other organisms taken place I have found that simple T.R. treatment does not suffice in many cases. Either thorough "scraping" or excision of the affected parts should be carried out or else the suitable vaccine or vaccines besides T.R. should be given. One or two injections of streptococcus or staphylococcus or of both should be given. With T.R. alone such cases often improve only to a limited extent and then show no further improvement in spite of variation in the dose or time interval of injection. Of course, the usual precautions which accompany ordinary surgical treatment should be carried out—e.g., removal of bad teeth, enlarged tonsils or adenoids, or other source of infection. Fixation of the part will promote healing of this as of other tuberculous affections. To my mind foul discharging sinuses and hideous scarred necks resulting from advanced tuberculous disease should become unknown. The disease should never be allowed to reach that stage.

Tuberculous joint affections.—Here, again, the prospect is a hopeful one. But ultimate complete success in restoring full healthy function will be obtained only by making a correct diagnosis in early stages and adding T.R. injections to those well proved and approved lines of treatment usually carried out. All the same, one of my joint cases, tuberculous arthritis of the knee, has been completely cured by the employment of T.R. alone. Since the injections were begun the patient has had no splinting or any special local treatment and no other internal remedy has been given. At the commencement of the T.R. treatment he had a sinus, very recently formed, over the internal condyle which was much enlarged. There were thickening of the synovial membrane, effusion into the joint cavity, pain, and much limitation of movement. The joint is now practically normal to appearance and movement has increased by about 45°. The patient has no pain and can run about freely with only the slightest limp. All the same, I recommend most strongly that all treatment which will favourably influence the course of the disease should be employed. One cannot afford conscientiously to run risks with such patients. To my mind, however, a new element has arisen in the treatment. Previously, when a patient was (to even a slight extent) the subject of night-starting, shrieked with pain at any attempt made to move the joint, and when effusion into the joint and thickening of the synovial membrane were present, one gave, to say the least of it, a very guarded prognosis as to the future of that joint. It *might* disintegrate completely and the most favourable outcome was that the disease would subside, but a stiff joint, in more or less good position, was practically certain. Operation cures the disease to be sure in most cases, but in too many it leaves much to be desired with regard to function. In the lower extremity it is practically essential to procure firm ankylosis. I feel certain that the outlook will be far more cheerful when the early use of T.R. is made. I have mentioned one case of arthritis of the knee. I have under treatment a case of tuberculous synovitis of the knee following displacement of the inner semilunar cartilage. Microscopic examination confirmed the diagnosis of tuberculous disease. The knee measured two inches more in circumference than the sound one. Movement was limited to about 30°. In such a case in the event of healing under ordinary treatment one would have expected dense adhesions, but the patient is obtaining freer movement as the joint is rapidly regaining its normal size. The condition was becoming steadily worse before T.R. was given. A third case of hip-joint disease showed the symptoms which I have already indicated (night-starting, pain on handling, and especially on attempted passive movement, &c.). Here I have the advantage of having had my observations confirmed by one of yourselves, who gave a guarded prognosis except that he was quite certain that even the most favourable outcome would be a stiff joint with shortening. With this opinion I was practically agreed. I have no doubt that he will be pleased to hear that the little patient can wriggle about in bed like an eel, can sit almost bolt upright without any sign of discomfort whatever, and allows one to handle the joint without demur. I venture, therefore, to think that such joints should not be absolutely immobilised for the long period which has hitherto been customary. By so fostering adhesions we may prevent what would otherwise be a perfect functional result. If not contra-indicated by the general progress of the case and the tendencies of the patient I suggest that about from two to four weeks after all tenderness on palpation of the joint has disappeared gentle passive movements be attempted every few days and that the patient be allowed well-governed freedom to move the joint if inclined. If any sign of deterioration occurs renew the stringent precautions for another month. Thus I believe that the course of treatment will be shortened by about half of what has hitherto obtained. It is interesting that in a case of resection of the shoulder for tuberculous disease 18 months previously, where the cervical glands in the posterior triangle had recently become enlarged to the size of a hazel nut, the patient stated spontaneously, after a couple of injections of T.R., that movement at the shoulder had become much freer. The glands (one suppurating, aspirated) became impalpable after the third injection. She had a very bad tuberculous family history.

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[1] A paper read before the Edinburgh Medico-Chirurgical Society on March 7th, 1906.

There is often difficulty in determining whether a deep joint, such as the hip, is really tuberculous. One can come to a decision by giving a big dose of T.R. in order to provoke the local reaction which will occur if the focus be tuberculous. This is very undesirable because one may thus lower the resistance (or, in the language of the opsonist, produce such a decided negative phase) so that the process, instead of being a very chronic one, may light up and prove very difficult to master. It is much better, although not quite so trustworthy, where it is possible to examine the blood only, to ascertain the opsonic index to tubercle bacilli. According to Wright and many others this is of much clinical value. If it be low or unduly high one should at least be very suspicious of tubercle.

A young woman consulted me about her wrist which was giving her much pain and preventing especially her piano playing. There was slight thickening of the proximal end of the fourth right metacarpal bone. This disappeared after fixation of the wrist in plaster-of-Paris for some weeks, but the pain persisted and became worse as time went on and there was a suspicion of recurrence of the thickening of the bone. X rays gave no help. The opsonic index to tubercle bacilli was 0·75, so I began T.R. injections with the result that the trouble rapidly disappeared.

A very different picture from the point of view of rapid results, is presented usually by cases where abscess formation with subsequent development of sinuses and compound infection has occurred. In none have I obtained satisfactory results with T.R. alone unless after operation, and in the majority, although great improvement has occurred, yet it has been slow and subject to occasional retrogression. Here, however, I have not many cases to judge from. One case already recorded was a boy from the poorhouse, with elbow, wrist, metacarpal, and ankle much disintegrated—to say nothing of far advanced disease in his cervical glands. The rapidity with which his lesions healed was very striking. The case of a little girl, in very poor general condition, who came to hospital with a profusely discharging sinus in front of her left hip-joint, is probably the next best in result. The head of the femur was far gone and there was a rather large cavity, filled with pus and lined with very unhealthy granulations, in front of the joint. The bone and cavity were thoroughly scraped. She healed slowly with T.R. but made rapid strides when staphylococcus vaccine was given as well. There remains now only a very small superficial ulcer. In a man, aged 45 years, a very advanced case of hip-joint disease, the result has been unsatisfactory. He was, however, in bad general condition, suffered from incipient waxy disease which caused troublesome diarrhœa, and he persisted in taking unsuitable food. To give him a chance of life I undertook treatment. The head and neck of the femur were rotten and there was besides necrosis of the innominate bone. Numerous foul cavities radiated in various directions from the diseased bone. Several operations were performed. He would not listen to proposals of amputation. After T.R. was given he improved only to a limited extent and then lost ground in spite of variation in dose and time intervals. His opsonic index averaged from 0·75 to 0·8. He improved much more when mixed vaccines of staphylococcus and streptococcus (which organisms were found in the discharge) were used. In fact, only then did any satisfactory healing occur. A large granulating area which had formed in the line of an extensive posterior incision healed with the exception of four sinuses. This area had remained unaltered for weeks. The patient has tired of hospital and gone home and one cannot say that he is better.

I think you will agree after hearing details of these cases at varying stages that it is now even more desirable to prevent, as I believe one can prevent, the very miserable local and general condition of advanced and progressive cases and the disablement and too frequent deformity of cases where cure has been effected. This can be done only by accurate diagnosis and by prompt and rigorous treatment in the early stages. I have no doubt that the very much brighter outlook in these cases will soon be appreciated by those who add T.R. injections to their other treatment.

Tuberculous peritonitis.—In this class I have only one case to record. A hospital nurse, with a very bad family history, developed what turned out to be severe tuberculous disease of the ovaries and tubes, with accompanying peritonitis in the lower part of the abdomen. She had previously a sharp attack of pleurisy with effusion. There were complications, non-tuberculous, which hastened operation. Her right tube and ovary were removed and owing to the conditions it was necessary to leave a tampon in the pelvis, the ends being brought out at the lower part of the abdominal wound. The patient was very ill for many months after the operation and was making a very tardy convalescence, if convalescence it could be called, until injections of T.R. were begun. There was then a most decided change in a week or two. She gained appetite, flesh, and strength. The abdominal wound, which had become a large scooped-out, unhealthy, granulating area, healed until only a small sinus was left. This led into a cavity in the pelvis, which was then drained per vaginam. There is still a very tiny suprapubic sinus. She is now in comparatively robust health and capable of taking a fair amount of walking exercise. Six months ago everyone in connexion with the case thought that the prognosis was well nigh hopeless.

Psoas abscess.—Either aspiration or incision is necessary at some part of the treatment of these cases. Personally, I prefer incision so as to be able thoroughly to evacuate caseous material and pieces of diseased bone, either movable or fixed. I believe that energetic scraping of the abscess wall will be obviated by the use of T.R. I have, however, not had an uncomplicated case of tuberculous psoas abscess to deal with since I have become convinced of the efficacy of T.R. I have to report two cases where multiple infection occurred. One was an anæmic, sallow-looking youth who informed us at the hospital that during the previous week his trousers had rubbed through the skin over a very large swelling in the left groin and upper part of the thigh. A great quantity of pus had escaped. There was a hole in the skin of about one inch in diameter through which masses of caseous material and thin flaky pus were still escaping. The unhealthy edges of the hole were excised by an elliptical incision and the cavity below Poupart's ligament was scraped out. Through an incision above the iliac crest the upper part of the abscess was opened. Several pieces of loose bone were removed and the cavity was scraped in a perfunctory way compared with my usual practice. Both wounds were sutured. All the stitches gave way and for a couple of weeks free discharge occurred. Ten days after his operation T.R. injections were begun. Later he got mixed staphylococcus and streptococcus besides. The granulating wounds kept very healthy and healed rapidly, discharge from the depth soon ceasing. His general appearance and health are vastly improved. The other, a weakly emaciated girl aged 17 years, came to hospital with a sinus in the groin, from which fairly profuse discharge had escaped for several weeks. Otherwise the case was similar to the one already given. T.R. injections had a beneficial effect but far greater improvement resulted when streptococcus and staphylococcus vaccines were used in addition. The wounds have practically healed. Infected psoas abscess is a condition of evil repute, but these cases show that one need not be so hopeless nowadays about the prognosis. Judging from my own limited experience I should have given a bad prognosis in both cases with ordinary treatment.

Tuberculous disease of upper air passages.—A case of rhinitis, with typical tuberculous ulceration of mucous membrane and caries of turbinates and bones of the bridge of the nose, with secondary suppurative infection of the absorbent glands, had been treated over several years by all sorts of local manœuvres with only temporary benefit. The patient came to me again about the middle of January saying that she thought that another operation must be necessary and was afraid that the disease was going to break through the skin at the bridge of the nose. One injection of T.R., supposed to be [illegible]th of a milligramme, produced considerable reaction, lasting for a week. A second smaller dose with staphylococcus added was given after 18 days and repeated at intervals of 14 days. The patient is now almost cured.

Tuberculous teno-synovitis.—A young patient with a bad family history was operated on by me for tuberculous synovitis of the common flexor sheath of her right hand. This was followed by perfect healing, but 18 months later the flexor sheath at the base of the middle finger became similarly affected. One injection produced markedly beneficial effect, in spite of the fact that the movements of the finger were controlled only voluntarily—i.e., no splinting was applied. She was cured after three injections.

Genito-urinary tuberculosis.—As I have taken up too much time already, I do not wish to say much about this except that I have not obtained the constant and progressive good effect from T.R. alone recorded by other observers. In fact, had I begun by trying T.R. on this class I should not have been here to-night, as I should have had so little to record. I am convinced that it is advantageous at an early stage to obtain information as to the nature of the complicating organisms, for in such cases complication takes place early. Then make and use the suitable vaccine. In uncomplicated cases or where purely tuberculous deposits are left behind—e.g., in the prostate or the vesical end of the vas deferens after removal of the testicle—T.R. causes more rapid absorption of such deposits than [illegible]

The use of other vaccines.—Of the effects of other vaccines on their specific diseases I do not intend to say much. I have not so much experience of their use and the results have not been so uniformly striking in cases where the infection was uncomplicated.

The usefulness of other vaccines in conjunction with T.R. in mixed infection of tuberculous foci has been already and probably sufficiently indicated. The same degree of usefulness may evolve in other conditions. It is well known, e.g., that once a gumma has "broken" through the overlying skin or mucous membrane it is frequently infinitely more difficult to bring about cure with ordinary medication than it would have been before ulceration occurred. It is a case of mixed infection again. An example of the good effect of staphylococcus and streptococcus vaccines occurred lately. The patient's back was the seat of several ulcerated syphilitic lesions. Two large areas were covered with rupial crusts and over the erector spinæ opposite the twelfth rib on the right side was a scooped-out ulcer, dirty, sloughy, discharging freely, and smelling badly. It measured two and a half inches across and one inch in depth. All sorts of treatment had been given to these parts by numerous skin specialists in different parts of the country but during the past year they had become rather worse than better. Injections of staphylococcus and streptococcus produced an immediate improvement. The affected areas became cleaner, the granulations more vascular and firmer, and the surrounding parts much healthier and more natural looking. I do not think that healing will occur without operation. Whereas I had scruples about operating from fear of making matters worse I now have none.

Staphylococcus and streptococcus vaccines are of use in another class of diseases, ulcerated cancers. Prompted by Mr G. L. Cheatle's suggestion I have given these vaccines in three cases of extensive operation in the mouth with the idea of preventing septic pneumonia. In one patient, aged 65 years, the extent of the epithelioma required removal of the whole of the horizontal ramus of the lower jaw on one side and of the adjacent part of the floor of the mouth and cheek besides the glands of the anterior triangle. The patient was a weakly, anæmic individual, of a type prone to succumb to pneumonia. In the other cases, one, a case of sarcoma in a patient aged 45 years, and another, a case of epithelioma in a patient aged 63 years, involved, curiously enough, in both patients the removal of the back part of the upper part of the jaw (behind the first molar tooth), the tonsil and adjacent parts of the pharyngeal wall, palate, and tongue, and all the tissues between these and the ascending ramus of the upper jaw. In these cases I consider that septic pneumonia was peculiarly liable to occur. In none of the cases was there ever the faintest suspicion of lung trouble. It would be a great matter if such treatment obviated the necessity of tracheotomy. The injections were given from five to seven days before the operation. The first patient had previously two other injections at weekly intervals. What impressed me was the shrinking and cleaning of the affected areas, especially in the first case. This patient expressed the opinion that operation would be unnecessary if the improvement continued. His mouth was foul from the presence of many carious teeth. The sockets left after extraction previously to operation healed more cleanly and quickly than usual. In this cleansing effect, then, we have another reason for the use of these vaccines before operation in such cases. There are less sloughing and less discharge during the after-treatment and therefore less trouble in keeping the parts sweet and, most important, less danger to the patient. Apparently this beneficial effect begins to diminish after from 10 to 14 days. Injections repeated after the operation will prevent this probably, as evidenced by one of the cases. I intend to widen the sphere of usefulness and make similar injections before such operations as for cleft palate, so as to increase the probability of primary union. Other possibilities crowd into one's mind—e.g., for the prevention of peritonitis as the result of operation for closure of fæcal fistula (here bacillus coli might be given as well), or previously to operations on diabetics or "albuminurics" who are so prone to the onslaughts of septic organisms. In cases of severe accident wounds, although by early thorough mechanical cleansing and clipping away of lacerated structures one procures usually perfect healing, it may be possible to improve statistics further by giving before the operation vaccines of the organisms of suppuration. Where such thorough cleansing has been done I find that when suppuration does occur it occurs at about the end of from seven to ten days and is usually mild in character, so that the positive phase following the injection of the necessary vaccines will have developed several days earlier than this and may prevent such suppuration. The preliminary negative phase might, however, foster the earlier development of the infecting organisms, so before passing any opinion one requires to compare many cases observed by trustworthy men.

In the pure streptococcus or staphylococcus infections one does not require to, one had better not, use vaccines in the early stages. But for the bursting of an abscess or the use of the knife all such cases should, theoretically, according to this resistance theory of Wright, prove fatal, for is there not a continual supply of poison absorbed into the system and should there not, therefore, be a continuous increase in the negative phase? Why should erysipelas become arrested? Why should there be a crisis in pneumonia according to these ideas? I shall not attempt to answer but merely say that theories do not fit all phenomena where living tissues are concerned. Even though such abscesses are not relieved they sometimes dry up and this is more likely to happen the nearer they are to the surface of the body. Certainly the small circumscribed furuncular abscess frequently does. Evidently there is a victory for the tissues and fluids concerned. But yet there is not sufficient resistance provoked, for how often do we see crop after crop of such boils coming out, frequently over a period of months. Here there is a clear indication for the raising of resistance by injection into the general circulation of the specific vaccine, and it has been done repeatedly with success. In *chronic* septicæmia or pyæmia, again, cure will probably be obtained by giving a fillip to the resisting powers by the injection of the suitable vaccine.

One can only indicate probable usefulness for gonococcus vaccine in *chronic* gonorrhœal infections, such as gleet, prostatitis, epididymitis, endometritis, salpingitis, arthritis, and so on.

In a case of pyelitis, where internal remedies, prolonged drainage with daily flushing of the renal pelvis, and plastic operation on the deformed pelvis had failed, I tried vaccine treatment. The vaccine was made by Professor A. E. Wright from the culture obtained from the patient's urine. It was a pure one of bacillus coli. The case was evidently proceeding rapidly to cure, when an attack of influenza occurred and no efforts would induce the number of bacteria in his urine to decrease below from 1,000,000 to 2,000,000 per cubic centimetre. All the same, the average number was at one time about 30,000,000. The progress of this case has been checked by the patient's opsonic index to bacilli coli.

Before proceeding further I should like to say that I would fain avoid technical details in connexion with our subject, my own inclinations being strengthened by a hint from your secretary, but one cannot altogether disregard them. I do not wish to refer to the opsonic index problem further than to discuss the question whether such an estimation is necessary for carrying the great majority of cases to a successful issue. I assert that it is not. If my assertion is wrong it means that many cases deserving of the treatment will have to do without it on account of the expense and labour involved in the calculations. An ordinary practitioner cannot possibly afford the time necessary. Even if he could, unless he has passed through very special training his observations will be of no value. The average patient cannot afford to pay for the services of the skilled bacteriologist as well as those of his own medical man. One must bear in mind that a great bulk of patients of the non-pauperisable working and middle classes are outside the benefits of what may obtain in hospitals. As the usefulness of the treatment is appreciated and its application extends even hospital authorities may grudge to pay for the amount of skilled labour involved if clinical symptoms are not sufficient to guide one during the course of treatment. I assert that accurate clinical observation is quite sufficient, but would repeat that thorough experimental investigation of the effects of any specific vaccine must precede its use clinically in this way in order more easily to arrive at the proper approximate doses and time intervals of giving these. The opsonic index is necessary for the investigator, but not for the clinician in the majority of cases. My cases prove the point very satisfactorily and I think that nothing more need be said by me. One cannot do without the services of the bacteriologist, however. He must find out for us what the organism is which is causing the disease and prepare the corresponding vaccine.

It will be best to consider now what are the proper dosage and time intervals at which the doses should be given. As stated, these must first be ascertained approximately by the bacteriologist. I do not think that one can be dogmatic about dosage. From my experience in this line I should say that one of the important things is *to get rid of the inclination to increase doses* so as to produce better results. Not very long ago Professor Wright was kind enough to send me a list of the doses of a few of the vaccines which he had been giving. They were as follows: Staphylococcus, from 500,000,000 to 1,000,000,000; streptococcus, from 100,000,000 to 250,000,000; gonococcus, from 50,000,000 to 250,000,000; bacillus coli, from 100,000,000 to 1,000,000,000; and tuberculin R., from $\frac{1}{1000}$th to $\frac{1}{400}$th of a milligramme. I should say that one should give even less than these. For example, I have been getting very marked results from the use of about one-sixth of this amount of staphylococcus vaccine at a time. As Professor Wright says, it seems well also to prolong the interval and to lessen the dose of vaccine in the later stages of treatment.

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If the vaccine be doing good the great majority of my patients have experienced improvement in the part affected and have shown and expressed marked improvement in general health, their appetite and sleep have improved, they became brighter, and they put on flesh. For a day or two following the earlier injections there may be such slight [illegible] or discomfort to the extent of

of from seven to ten days and is usually mild in character, so that the positive phase following the injection of the necessary vaccines will have developed several days earlier than this and may prevent such suppuration. The preliminary negative phase might, however, foster the earlier development of the infecting organisms, so before passing any opinion one requires to compare many cases observed by trustworthy men.

In the pure streptococcus or staphylococcus infections one does not require to, one had better not, use vaccines in the early stages. But for the bursting of an abscess or the use of the knife all such cases should, theoretically, according to this resistance theory of Wright, prove fatal, for is there not a continual supply of poison absorbed into the system and should there not, therefore, be a continuous increase in the negative phase? Why should erysipelas become arrested? Why should there be a crisis in pneumonia according to these ideas? I shall not attempt to answer but merely say that theories do not fit all phenomena where living tissues are concerned. Even though such abscesses are not relieved they sometimes dry up and this is more likely to happen the nearer they are to the surface of the body. Certainly the small circumscribed furuncular abscess frequently does. Evidently there is a victory for the tissues and fluids concerned. But yet there is not sufficient resistance provoked, for how often do we see crop after crop of such boils coming out, frequently over a period of months. Here there is a clear indication for the raising of resistance by injection into the general circulation of the specific vaccine, and it has been done repeatedly with success. In *chronic* septicæmia or pyæmia, again, cure will probably be obtained by giving a fillip to the resisting powers by the injection of the suitable vaccine.

One can only indicate probable usefulness for gonococcus vaccine in *chronic* gonorrhœal infections, such as gleet, prostatitis, epididymitis, endometritis, salpingitis, arthritis, and so on.

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successful, which would easily be explained by the fact that streptococci are from various sources of different strains.

The following is a very brief account of the three cases of malignant endocarditis in which this method was adopted.

CASE 1.—The patient, a young woman, aged 26 years, was admitted into Mill-road Infirmary three days after delivery of a stillborn child. The labour was a difficult one and instruments were necessary to deliver the child. On admission she was in a state of acute puerperal septicæmia. The temperature was 103° F. and the pulse was 140 and very feeble. She was partially delirious. The genitalia and uterus were carefully examined and a swab was taken from the interior of the uterus which showed streptococcus on agar tubes. She was immediately given 20 cubic centimetres of serum as above indicated in the rectum night and morning. On admission the heart sounds were pure but on the third day after admission a soft blowing systolic murmur was heard over the apex and confined to the mitral area. On the next day she was seized with violent rigors, sweatings, and great restlessness, her temperature being 106° and the pulse 140. After each injection of serum there was a drop in the temperature of about two degrees and she expressed herself as feeling easier. The rigors ceased and the sweating was less. The murmur, however, became louder and harsher and in spite of all treatment she died six days after admission. In all she had 200 cubic centimetres of serum.

At the necropsy the uterus was found to be enlarged and flabby and the endometrium was acutely inflamed and covered with a greyish slough. There was no retention of placenta or any débris. The heart was enlarged and weighed 13 ounces. The mitral valve was in a state of acute infective endocarditis and streptococci were readily stained from it. There was no other lesion to be found and the case was evidently a very acute infective septicæmia which would have required an enormous amount of serum to combat successfully.

CASE 2.—This was an example of the cardiac or malarial type in which the heart has been damaged by previous disease. The patient was a woman, aged 26 years, who was admitted to hospital in a serious condition. She had suffered from heart trouble for ten years, the result of rheumatic fever, but had been able to work up to a week before admission. She was at that time seized with great pain in the cardiac region, shivering fits, and general malaise. On admission her temperature was 104° F., the pulse being 120, small, and irregular. On examination the heart was found to be much enlarged, with loud mitral presystolic and systolic murmurs. The murmurs were particularly harsh and rasping, with great cardiac irregularity. She had a large tender spleen, numerous petechiæ over the arms and chest, profuse sweating, and violent rigors at intervals, together making a typical clinical picture of infective endocarditis. Her case seemed desperate. She was given 20 cubic centimetres of serum night and morning and after the second dose she felt relief. Her temperature dropped at once, the pulse became slower and steadier, and she felt easier. After each injection she felt better, the rigors rapidly disappeared, the sweating became less, and she was able to converse and to explain her symptoms. The injections were continued for 20 days; in all a total amount of 560 cubic centimetres of serum was given and her condition was immensely different. The temperature became normal, the pulse 100 and regular, and the murmurs much softer, and this condition continued for five weeks, during which time she was comparatively comfortable and free from dyspnœa and pain. The damaged heart, however, remained and she died somewhat suddenly from embolism six weeks after the temperature had become and remained normal. Unfortunately no necropsy was obtained.

CASE 3.—This patient, a woman, aged 23 years, was another instance of the cardiac or malarial type where the heart had been previously seriously damaged by an attack of rheumatic fever. On admission she was suffering from a typical attack of acute infective endocarditis with a temperature of 103° F. and persistent and recurring rigors. The aortic valve was seriously damaged, with all the symptoms of stenosis and regurgitation. The murmurs were harsh and loud and there was considerable dyspnœa, the patient having to be propped up in bed. She was given 20 cubic centimetres of serum morning and evening and almost immediately she got relief. The rigors ceased entirely after three injections, the sweating was less, and she felt less headache and oppression. The temperature gradually dropped and reached the normal in ten days. Altogether 580 cubic centimetres of serum were used, with no pain or discomfort and no sign of erythema or urticaria. Her condition rapidly improved until in three weeks she was entirely free from symptoms or distress. She was discharged to the convalescent home in a good condition.

Remarks.—From a prolonged use of polyvalent antistreptococcic serum per rectum I am satisfied of its greater efficacy and personal comfort than by injecting it under the skin. This antistreptococcic serum, however, is only an antimicrobic serum and has no antitoxic action. What the result of injecting antitoxic sera by the rectum would be I do not know as I have had no experience. There can be no possible doubt, however, as to the great value of antistreptococcic serum in pure streptococcal infections and the preparation of a polyvalent serum is a great step in the treatment of these acute and often fatal diseases.

Liverpool.

THE TRAINING OF NERVE CENTRES IN CHILDREN.[1]

BY G. ERIC CAMPBELL PRITCHARD, M.A.,
M.D. OXON., M.R.C.P. LOND.,

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IN presenting to the society my views on the subje which forms the title of this paper I make no claim originality. I am simply rehabilitating an old friend in ne vestments and attempting to express in words certa thoughts and ideas which in some form or other mu have occurred to all of us. Practical psychiatry h recently taught us many a useful lesson concerning th development and training of the defective mind; what I a going to say this evening is concerned with the applicatio of the same fundamental principles to the training an education of those lower nerve centres which control th humbler organic functions and which, not only in mentall defective children, but also in children of superior intelli gence, often suffer from certain initial disabilities.

Though all of us are perfectly well aware that ever organic event that takes place in our bodies is the expressio of a reaction to outside agencies or the response to stimula tion by the environment, in the practical domain of medi cine and in the treatment of symptoms we seldom pause t consider that all these reflex actions represent chemical an physical changes set up in the central nervous system b forces reaching it from outside and that the objectiv manifestations of these changes are only secondary event occurring in the muscles and in other organs. In othe words, we rivet our attention on the instrument which dis plays the function and not on the hand that guides th machine. How many of us, for instance, when we have t treat a case of dyspepsia think of possible disturbances i the nervous centres which control the functions of digestion Do we not rather think of the pathological condition of the gastric mucous membrane or of disabilities of the motor functions of the stomach? The irrational and unscientific classification of diseases into functional and organic varieties has doubtless predisposed to this narrow conception of morbid processes. Every disease must primarily be functional in character. Whether organs do their business well or badly depends almost entirely on the central administration of the nerve cell; *for the special activities of organs, as well as their nutritional and vegetative functions, are inseparably bound up with impulses which emanate from this central authority.*

In the same way that in the treatment of disease our natural inclination is to consider the organ rather than the nerve cell that directs its activities, so in the physical education or training of the ordinary bodily functions we incline to direct our energies to the instruction and improvement of the organ with which we are concerned and momentarily forget that the only portion of the entire reflex arc which has a memory or is capable of instruction is the nerve cell which

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[1] A paper read before the Chelsea Clinical Society on Feb. 20th, 1906.

food will be deleted from the list to which civilised man is erroneously supposed to be born the heir.

Some children are very much easier to train or to educate in the normal performance of the organic functions than others. Thoroughly degenerate infants lose, or rather, we should say, never acquire, proper control over such ancient, automatic, and stereotyped actions as those exercised by the cardiac and respiratory centres; others of a lesser degree of degeneracy fail to acquire complete and coördinate control over such easily managed functions as those of sucking, deglutition, &c. Personally I always take a *most unfavourable view* not only of those infants who require artificial stimuli to induce natural respiration at the time of birth but also of those who fail in coördination of such primitive muscular acts as those involved in sucking, swallowing, and in the motor functions of the stomach and bowel. How very easily these indications of incompetent nervous control can be overlooked in early infancy is illustrated by the fact that I have *twice* seen infants operated on for tongue-tie who were really examples of inherited nervous degeneracy and who were unable to perform the simple coördinated function of tongue extrusion.

Precocious children, especially those born of intellectual parents, acquire early control over the higher cerebral centres which depend for their activity on the coördination of impulses reaching them through the nerves of special sense. As a rule, too, in such children the lower centres which administer to the organic functions are exceedingly receptive to educational stimuli; but too often they develop at a rate which is incompatible with permanency and stability and soon show signs of premature decay. The nervous *instability of these precocious children* who have anticipated the natural progress of evolution and lived before their time cannot always be easily distinguished from that other form of nervous disability which is truly degenerative and indicative of a reversion to a more primitive type. Indeed, it is very difficult to say what is degeneration and what is evolution.

That higher sensitiveness of the nervous system to external stimuli, which in so-called neurotic individuals is very often the basis of their genius and intellectual superiority, carries with it at the same time certain disadvantages when viewed from the standpoint of the lower centres. For these centres, owing to their inherent excitability and sensitiveness, are not only liable to explode with dynamic energy in the face of *subminimal stimulation*, but they also *tend to* discharge neighbouring and associated centres by permitting of an overflow of their excessive energy. Thus in neurotic infants, provided with hair-trigger centres of this kind, the insignificant stimulus of an erupting incisor tooth may provoke not only local manifestation but even a general overflow of incoördinated and explosive discharges which take the form of *convulsions*. *Involuntary nocturnal enuresis and involuntary masturbation* in infants are examples of the hair-trigger-like action of the lumbar centres. Spasmodic asthma and, indeed, I would venture to suggest bronchitis, are similar explosive neuroses of the respiratory centres, and spasm of the pylorus and larynx affords other instances of a like instability in other cell-groups in the central nervous system.

The sound education of *these* lower centres in neurotic subjects is a matter of great difficulty; two main principles, however, must be borne in mind. Firstly, that all these centres are hypersensitive to external impressions, and that they respond to stimuli which in normal and stable children would be subminimal and incapable of eliciting a discharge, and secondly, that the memory of these centres is highly developed, so that they very easily contract habits, both good and bad. Neurotic children should therefore be protected from every possible form of strong stimulus, whether this stimulus take the form of food, of extreme degrees of cold or heat, of light, of sound, of pain, or of pleasure—otherwise their centres will explode with violent and ill-coördinated energy, and the vicious habit will be perpetuated to the detriment of the harmonious coöperation of the organic processes of the body.

I have referred to the pathological overflow of ill-coördinated and stormy nervous disturbances which pass from one centre to another as the result of supermaximal stimulation, and by way of illustration I would mention the violent jump which a nervous child may make when he hears a loud and sudden noise. I may add that exhaustion of *contiguous centres* is an analogous consequence of longer and more sustained stimulation. Instances of this kind are familiar in the exhaustion of the centres governing the acts of defæcation and micturition, which follows as the result of prolonged labour in women; the spinal centres which control these muscular coördinations are in their anatomical relationship closely associated—and exhaustion in any one of them is followed by exhaustion in the others. Again, the whole arm, or indeed the whole body, may become tremulous and incapacitated for finely coördinated actions if the centre for so small a muscle as the extensor indicis become fatigued by intermittent contraction. There is, however, a physiological corollary which follows from this reciprocal interaction between centres and it is that the energy stored up in one centre can be drawn upon by adjacent centres when the latter become exhausted. This reciprocal support is well shown in the case of the higher cerebral centres, indeed, as Dr. L. H. Gulick[2] says, "the motor brain seems to be a sort of battery furnishing power for intellectual labour." Physical endurance as well as intellectual endurance depends, not only on the degree of development of the special centre concerned but also upon the storage capacity of the whole battery of centres. The fact that the motor brain can act as a sort of storage battery for the display of intellectual labour and that there can be an exchange of energy between more or less closely associated centres emphasises, in a physiological sense, the importance of an adequate development not only of special motor centres but of every available nerve-cell that can take part in any possible muscular coördination.

It has been said, and I believe truly said, that both in animals and in man "the scale of intelligence corresponds to the number of possible muscular coördinations, the more complicated the neuro-muscular apparatus the higher the intelligence." Indeed, whether we think, *feel*, or will, we repeat, as it were, in subjective pantomime the neural and muscular process whereby we obtained our original information. In view therefore of its influence on the development of the intelligence apart from every other consideration the training of the muscles and the various muscular coördinations from earliest infancy onwards is a matter of the utmost importance. *Infants and children should not only be* encouraged to develop their motor centres by the voluntary exercise of their muscles, but they should be systematically taught movements and combinations of movements for which they show no special inclination. Clumsy and ill-coördinated movements are indicative of similar methods of thought and there is no physiological stigma of degeneracy *that more* accurately reflects a debased quality of the central nervous system than want of adjustment in the finer muscular coördinations. Although no amount of training or education will convert a nervous system that is intrinsically inferior into one that is even relatively good, nevertheless a great deal can be done by educational discipline to compensate for initial inferiority and to raise it to a higher standard of functional efficiency.

Without entering into details and special methods of muscular training for infants and children, I would refer to a general principle which applies not only in this case but in the *training of all centres throughout the cerebro-spinal system*, and this principle is that each centre should be developed in its natural order—and by natural order I mean the sequence in our ancestral history in which each has been acquired. Certain muscular coördinations are, in this phylogenetic sense, comparatively old, as, for instance, the coarse movements of the limbs and trunk, so also are the grasping movements of the hands. These latter are well developed at the time of birth, but the independent and finer coördinations of the fingers, in conformity with their more recent acquisition, show no spontaneous tendency to development *until the child is considerably older*. "*Nothing* but disaster," says Dr. Gulick, "can be expected if we attempt to force motor education out of its natural order." The education of any part is best done when that part is ripening and the physiological moment *is determined* in accordance with the antiquity of its acquisition. Anticipation or procrastination are equally fatal. "When," says the same author, "special attention is given to specific exercises demanding skill in distal groups of muscles, before the more proximal have been trained, we often find neuroses supervening." Instances of this kind are demonstrated by infant *prodigies* who have been prematurely trained in special lines of muscular efficiency—as, for instance, in playing the violin or piano. It is therefore thoroughly irrational to teach

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[2] Cohen's System of *Physiologic* Therapeutics, vol. vii., p. 241.
Ibid., p. 242.

that is necessary for the education of the higher cerebral centres but I maintain that it deserves far more consideration than it usually receives and that the two are very closely bound up together. At the cost of again repeating myself I would remind you that any sound method of educational discipline of the lower nerve centres in children must take cognisance of the three fundamental principles to which I have already referred—namely, the avoidance of supermaximal stimulation, the prevention of the acquisition of explosive neuroses through the habit of over-action, and the education of each centre in its natural order of development.

South Kensington, S.W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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A CASE OF ASCITES TAPPED SIXTY-NINE TIMES.

BY FREDERICK H. MABERLY, M.R.C.S. ENG., L R.C.P. EDIN., L.S.A. & L.M.

THE patient, a man, aged 52 years, consulted me first in March, 1901. He was then suffering from an enlarged, flabby, and very irregular heart, a liver reaching three inches below the ribs, and on boiling some urine in a test tube the deposited albumin reached about half way up the column of fluid. During the next few months four of our Birmingham consultants saw him with me and all felt that he had only a short time to live. His legs became very œdematous (for this I used acupuncture with very good results) but on March 11th, 1902, I had to relieve the abdomen which had gradually filled; this I did in the ordinary way with the usual trocar and cannula, but finding how exhausted he was after the operation I concluded that the very rapid extraction of heat contained in two gallons of fluid was the cause and determined to adopt another method, so on the next occasion, March 27th, I used a small exploring needle the cannula of which had a diameter of only one-sixteenth of an inch. The drawing off of the fluid this time gave him no inconvenience, but, on the contrary, he was greatly relieved and felt perfectly comfortable on the next day. I tapped him 24 times in 1902, 21 times in 1903, 10 times in 1904, and 14 times in 1905, in all, 69 times, which I think is a record. The *modus operandi* was as follows. First I sterilised my instruments by placing them in a solution of formalin, sponged the skin, and washed my own and the nurse's hands with the same; then I injected hypodermically half a grain of cocaine deeply, allowing seven or eight minutes to elapse, when after emptying the bladder, I punctured through the linea alba, midway between the umbilicus and pubes, then removed the trocar and left the abdomen to drain, which generally took about one and a half hours. The patient's sister, who nursed him most assiduously throughout his illness, attended to the draining, then removed the cannula, and applied a small piece of sterilised wool, with adhesive plaster to the puncture and the operation was over. A belt was worn to support the abdominal walls. After adopting this plan the patient never suffered the slightest pain during the operation, nor had he any depression afterwards but was always much better and more cheerful on the next day, although the usual quantity of fluid removed was about two gallons.

I report this case thinking that it may be a help to my professional brethren in treating similar cases. The patient died from coma on March 14th, 1906, but until shortly before his end he had a very comfortable existence during the four years during which the treatment undoubtedly prolonged his life.

Birmingham.

A NEW METHOD OF OPERATING IN PANNUS.

BY WILLIAM PRIMROSE, M.B., C.M. GLASG., M.R.C.S. ENG.

FOR some time I have been employing a new method of operating in cases of pannus which is so simple and satisfactory that I think it deserves to be better known. The operation consists in causing an extravasation of blood into the subconjunctival tissue around the cornea. This by its mechanical pressure and by acting as an irritant foreign body setting up a localised inflammation, causes the obliteration of the vessels which vascularise the cornea. The only instrument required is a small sharp-pointed knife—a Beer's cataract knife does very well for the purpose. The point of the knife is passed through the conjunctiva at a distance of two or three millimetres from the cornea and made to puncture one of the larger blood-vessels. The knife is then withdrawn. The conjunctival wound should be as small as possible and made obliquely by holding the knife at an acute angle with that part of the surface of the eyeball which is being operated upon. In this way there is no external hæmorrhage; but bleeding takes place into the subconjunctival tissues and is arrested automatically by the pressure of the extravasated blood upon the vessel walls. In like manner many of the smaller vessels in the vicinity are mechanically closed. This mechanical action is increased by the formation of a coagulum, the fibrinous part of which shrinks and makes the whole mass smaller. Extravasated blood acts as an irritant, probably chemical as well as mechanical, so a non-infective inflammation is set up which results in the absorption of the blood clot. This process acts as a counter irritation to the inflammation of the corneal tissues and so tends to remove the seat of inflammation and the supply of blood from the diseased cornea to the clot, where the effects of the inflammation are comparatively trivial. By the time the blood clot has disappeared the blood-vessels in the cornea affected by the operation have shrivelled up and the cornea has regained much of its transparency. The whole pannus may be treated in this way at one time or the operation may be repeated from time to time, only a part of the pannus being treated each time. The latter is always advisable when the pannus is marked, as the inflammatory reaction is sometimes very severe and accompanied by a good deal of pain. Although the structures in the anterior part of the eyeball are all more or less affected by the inflammation this is easily controlled and subsides in a few days with the application of suitable remedies.

A patient, 35 years of age, recovering from trachoma had pannus equally marked in both eyes. He had one eye treated by the new method and the other by peritomy. Although the process of cure was attended by much greater suffering in the eye treated by the new method, the result of the operation was much more satisfactory than was that in the eye on which peritomy was performed.

Glasgow.

A CASE OF RUPTURE OF THE SAC IN ECTOPIC GESTATION.

BY JOHN H. TONKING, M.B. LOND.

MY excuse for publishing this case is the paucity of symptoms on which reliance had to be placed in order to arrive at a diagnosis.

The patient was a woman, 39 years of age, who had had 12 pregnancies, in the ninth of which she was delivered of twins. Her twelfth child was born on July 2nd, 1905, and was not nursed by the patient. Menstruation recommenced early in October and continued regular until early in January, 1906, when it stopped, but came on early in February. Instead, however, of ceasing as usual at the end of a few days it continued intermittently and not profusely until March 10th, when the patient was seized with violent abdominal pain causing vomiting. She was seen by a colleague who found her with no rise of temperature but with a pulse-rate of 120. Opium pills were given and on March 11th my colleague reported that she had less pain but that her pulse was still quick. The place of greatest pain was over the region of the gall-bladder. On March 12th at 6 P.M. I was requested to see her and found her in an attack of great pain, with no rise of temperature and a pulse-rate varying from 120 to 140. She was very anæmic. A diagnosis of internal hæmorrhage was considered probable and the patient was removed to the Women's Hospital at Redruth. After a consultation with Dr. Frank Hichens, ether was administered by Dr. William Blackwood, my partner, and I performed laparotomy at 10 P.M. the same night. As the patient was collapsed during the operation two and a half pints of saline solution were injected into the median basilic

growth is no doubt a phlebolith, or at any rate had a similar origin to such concretions. It has a fibrous structure, calcified in places. There are no nuclei visible anywhere."

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Observations on Endemic Goitre in the Chitral and Gilgit Valleys.

A MEETING of this society was held on April 10th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

The SECRETARY, in the absence of the author, Captain R. McCARRISON, I.M.S., read a paper dealing with the results of three years' observation in Northern India in two districts, Chitral and Gilgit. The Chitral country was mountainous. The villages were all situated on alluvial fans at the mouths of nullahs. The rocks were everywhere metamorphic, gneiss and slate predominating. But the most goitrous villages were invariably associated with limestone outcrops. The climate was temperate and the rainfall was small. The people were poor; their food was entirely vegetable, consisting of the poorest grains. Fresh meat was quite beyond their means, while salt was a luxury unknown to any but the richest families. The water-supply was in all cases derived from the melting of the snows on the hills above. It ran down the nullahs as a turbulent mountain stream, taking up what matter it might, either in solution or suspension. In the summer months the water was invariably grey from the presence of fine sediment. There were no real glaciers in the district under observation; the water was snow- rather than glacier-water. The villages had no wells and, owing to the slope of the ground and the nature of the soil, water did not and could not stagnate. The analysis of the water-supply showed: 1. That the waters varied largely in composition for the various villages. 2. No single dissolved ingredient appeared to have any influence in the production of the disease. 3. The total solids and the total hardness of the water appeared to have no influence in the production of the disease. Goitre was very common among children of all ages. Children at the breast were not free from the disease. Females appeared to suffer more than males. In one instance observed 18 per cent. of susceptible individuals, natives of non-goitrous areas, developed the disease after a residence of four months in one of the most goitrous villages. In another case, of ten young men from the plains of India, two, or 20 per cent., developed goitre in two and a half months. It was further noticeable that 32 per cent. of male children under one year of age in three of the most goitrous villages taken together suffered from the disease. These might, of course, be congenital but it was reasonable to suppose that some were acquired. Symmetrical goitres, diminished in size, except in old cases, when the subject left the area where the disease was acquired. They again increased in size on return. This rule would appear to apply even when he went to another goitrous district if sufficient time had not elapsed for him to come under the new influences. Experiments were tried on the influence of boiling and filtering waters supposed to be capable of causing the disease. Of ten dogs experimentally tied up in extremely goitrous houses for two months, five being given boiled and five ordinary water, one of those kept on ordinary water developed the disease. In Gilgit and Nagar the geographical, physical, and social conditions were similar to those in Chitral. The water-supply came from a single source and was conveyed to the different villages in open channels. This water was capable of producing 11·8 per cent. of goitre at its source, while at its terminus, after having served indifferently as drinking channel and open sewer for the villages on its banks, it caused the disease to the extent of 45·6 per cent. There was, however, a village served separately by a small spring entirely free from the disease in which no case of goitre due to the drinking of this water could be traced. This fact pointed to the very important conclusion that the other water-supply was the vehicle of the disease in Gilgit. It was noteworthy that the villages highest up on the channel showed the lowest percentage of disease and that this percentage increased proportionately until a maximum was reached at the terminus. This increase, however, did not occur in children under 15 years of age. A considerable outcrop of limestone occurred in the nullah from which Gilgit derived its water-supply. Qualitative analysis of the waters of these different villages showed no variation in their composition. Organic impurities were not readily detected in the water lower down owing to the fact that this water was continually being replaced by a purer supply from above. The chief characteristic of the water near its source was the presence of a large quantity of diatoms, amongst which eucyonema and navicula were most common, together with the absence during the winter months of much matter in suspension. At its terminus, on the other hand, diatoms appeared to be fewer in number, while suspended matter was extremely plentiful. Captain McCarrison next dealt with the case of Nagar. Up to six years ago Nagar was an independent State, cut off by inter-tribal jealousies from practically all communication with goitrous districts. During recent years intercourse with the outer world had become more free. Some five years ago certain individuals suffering from goitre settled in the country, where previously the disease was absolutely unknown to originate. Throughout Nagar goitre is now spreading in a typically epidemic form, its first victims being among children under ten years of age. The water-supply of Nagar, where the disease is spreading, came from a spring. This spring was said to have existed from time immemorial. The chemical composition of its water had presumably not altered. The conditions of life of the people were the same. The only added factor was the introduction of goitre from without. It appeared also evident that it was by means of the spring water that the disease was now spreading, for the 12 children affected were residents of that part of Nagar supplied by the spring. It was further important to notice that the family first to import the disease lived at the head of the spring and that no cases of goitre were observed where water from other sources only was drunk. The following conclusions were drawn:—1. The water-supply of Gilgit was the vehicle of the spread of the disease. 2. This water-supply was able, at its source, in its unassisted state, to produce 11·8 per cent. of goitre. At its terminus, after passing through seven villages and proportionately increasing in its goitre-producing powers on its downward passage, it reached a maximum of 45·6 per cent. 3. There must, therefore, between source and terminus, be added some poisonous element representing this difference of percentages in the disease. 4. The added element was matter in suspension. 5. The matter in suspension might be either (*a*) inorganic substances or (*b*) micro-organisms. 6. The striking case of Nagar could only be explained on the latter (*b*) assumption: that was to say, the introduction from without of a micro-organism into a suitable water-supply, and the consequent spread of goitre in a typically epidemic form. The hypothesis which assigned to micro-organisms the causation of the disease was further supported by the following facts: (1) the large percentage of goitrous children under one year of age in Chitral could be explained in this way without recourse to a conclusion that such cases were congenital; (2) it accounted also for such instances of the disease which could not be traced to a water-supply and admitted of the broader view that water, if it was the chief vehicle of infection, was not the only one; (3) it explained readily the regular increase of the disease from source to terminus of the Gilgit water-supply; and (4) finally, it explained the differences in the charts for the areas of Chitral and Gilgit which seemed to indicate the natural, *if slow, end of an epidemic of goitre.*

Mr. JAMES BERRY referred to the great importance of discovering the cause of this disease, with which were associated other conditions of physical and mental deterioration. There were two methods of studying the subject—first, to investigate the disease in one place, all the surrounding factors being taken into consideration; and, secondly, to visit and to investigate numerous goitrous districts. He had adopted the second method and had visited many goitrous districts in this country and abroad. Captain McCarrison's observation agreed with his own observation that goitre occurred most commonly in mountainous districts, and he showed a map demonstrating the fact that goitre occurred in the mountainous districts of France and also in the hilly parts of England. Another striking point was the connexion between limestone and goitre. He quoted statistics to show

build.—Dr. F. E. Fremantle referred to Selangor in the Straits Settlements where the engineer who first laid the plans in the jungle provided, in spite of opposition and ridicule, for a town which had now in his lifetime attained a population of 70,000. He adduced the case of the "Garden City" and of Bournville, which were conducted on strict business lines.—Dr. J. C. McVail, Dr. A. Newsholme, Dr. W. Butler, and others asked numerous questions on matters of detail, to which Dr. Robertson replied that except in the case of roads over a certain width the owners paid for the making as in this country. He could not explain how urban and rural districts were respectively rated but he knew that the principles of rating were wholly different from what they were here and that the municipalities always kept a portion of their areas open and rural. The authority prescribed the alignment and width of streets, the height of the houses, and their connexion with the sewers, and so on, but all matters of construction, plans, and materials of houses were subject to the regulation of the (sanitary) police. Owners could not be compelled to develop their land and might hold it back until they could obtain by sale the unearned increment in the value of the site, but this was very rarely done.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held at Bath on March 31st, Dr. G. W. Hamilton Cumming (Torquay), the President, being in the chair.—After an inspection of the Royal Mineral Water Hospital an ordinary meeting was held at the Guildhall.—The President remarked that as Bath had been chosen for the first meeting of the society in the provinces, and as the Bath waters were the only true thermal springs in the country, Thermal Methods had been chosen for the discussion. He hoped that cases proved to be unsuitable for treatment at Bath would be mentioned.—Dr. Charles Begg (Bath) laid emphasis on the superiority of a natural thermal water in the treatment of disease as a result of his experience here and elsewhere. Bath was the only natural hot-water spa in Great Britain. When *cold* mineral water was heated gases were given off and solids precipitated and the result approximated more or less closely to pure water. The remedial agent was still uncertain—whether the natural heat, the stimulation of nerve terminals by salines, the action of gases, or the radio-activity. An important point was the season of the year. Bath had been called relaxing in summer, but that was its strong point. They could not relax too much a patient from whom they were trying to eliminate a systemic poison.—Dr. Alexander Morison (London) remarked upon the natural pre-eminence of Bath as an English thermal spring and argued from its ancient reputation that the waters could effect much without the complication of electric baths and other modern addenda to balneological treatment. However wide might be the domain of practice in Bath or elsewhere he considered that the interests both of Bath and its invalid visitors would be best consulted by the special treatment by natural balneological methods of suitable articular and neuritic affections, only.—Mr. T. Pagan Lowe (Bath) said that the thermal methods employed at Bath did not differ materially from those which obtained at other first-class balneological resorts, such as Buxton and Harrogate, and included in addition to every modern thermal water appliance, the Greville, the Dowsing radiant heat, sinusoidal electric baths, and high-frequency appliance. 40 years ago the "season," like other watering-places, was essentially a summer one but now Bath was the only winter health resort in Europe and its "season," which began in October, continued without interruption until the following June. Surgical methods as applicable to chronic joint disease formed an important adjunct to Bath treatment and were practised with considerable success.—Dr. H. Forestier (Aix-les-Bains) mentioned the various "thermal methods" which had been in use for centuries in spas and pointed out that bathing, douching, and hot vapour baths were the chief ones. About 1810 a new thermal method was brought into the practice at Aix-les-Bains, the douche combined with massage, the latter being imported from Egypt at the time of Bonaparte's expedition. This "douche-massage" seemed to be the more effective thermal method as carried out at Aix-les-Bains. Its effect on the metabolism was much greater than the simple douche. The efficacy of "douche-massage" had led to its adoption at other continental spas as well as at the British spas.—Dr. W. Johnson Smyth (Bournemouth) considered that in rheumatic and gouty conditions, and also in some forms of neurasthenia, where rapid chemical changes in the system were desirable, there could be no question as to the beneficial effect of thermal treatment. Some rheumatic conditions associated with, or due to, morbid functional activity on the part of the nervous system were readily amenable to thermal treatment. In neurasthenia thermal treatment was found to be of the greatest use. It was possible that in the early embryological relationship existing between the superficial layers of the skin and the cerebro-spinal nervous system (both derived from the epiblast) they might find a clue as to the ready response of the latter when the former was stimulated by external agencies, i.e., thermal methods.—Dr. Leonard Williams (London) said that the thermal treatment was in reality the recognition of the importance of the excretory and other functions of the skin. All thermal methods stimulated this large and important organ, and these methods constituted in reality the only means available for producing such stimulation and maintaining it over long periods of time. Herein lay the secret of that efficacy of spa treatment in chronic disease which was now somewhat tardily attaining to that recognition which was its due.—Dr. G. H. Thompson (Buxton) wished to emphasise the importance of first using thermal water in preference to other methods of treatment in suitable cases. Every form of bath, douche, &c., should be available, but the simple immersion bath was often sufficient. At Buxton, by simple immersion, about 80 per cent. favourable results were obtained. The mode of action would probably be found to lie in the molecular activity of the various constituents of the water, such as radium, nascent gases, &c., which action was transmitted through the nerve endings to the various nerve centres and thence to the tissues.—In the evening the Fellows dined together at the Empire Hotel, the Mayor of Bath and Sir Thomas Chavasse (Birmingham) being guests of the society. The Fellows were afterwards present at a reception at the Pump Room given by the mayor and corporation of Bath, when the Roman Bath was illuminated.—On the following day (Sunday) the Fellows inspected the bathing establishments and then attended Divine service in the Abbey.—Later in the day the Fellows were received at Winsley Sanatorium by Dr. Lionel A. Weatherly who gave a lecture on the Results of the Open-air Treatment of Tuberculous Disease.—Mr. E. D. Townroe (resident medical officer), Dr. StClair Thomson (London), Sir Thomas Chavasse, Dr. W. J. Tyson (Folkestone), and the President took part in the discussion.—A vote of thanks was passed by the Fellows to the medical profession of Bath for their kind hospitality and Dr. Begg replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND: SECTION OF MEDICINE.—A meeting of this section was held on March 30th, Dr. George Peacocke being in the chair.—Dr. W. J. Thompson exhibited a case of Keratosis which had been under his care. The patient's personal and family history was good and before Christmas he was quite well. Then the palms of his hands and the soles of his feet became rough, thickened, and swollen. The inside of the mouth became very much swollen and the gums covered the teeth. His eyes were bloodshot. The skin thickened in the axilla and about the elbows and chest. All the openings of the body, ears, eyes, &c., were swollen; that of the nose sometimes became ulcerated and painful. There were no indications of derangement of the internal organs; the nervous system, reflexes, and thyroid gland were normal. He had been under thyroid treatment for the past three weeks with considerable benefit. His genital organs were completely atrophied.—Dr. Wallace Beatty said that he considered it to be an example of acanthosis nigricans and exhibited a plate illustrating the affection.—Dr. John M. Finny read notes on a case of Bradycardia with Arrhythmia and Epileptiform Fits which had been under observation for nine months and which ended fatally after very severe and prolonged fits of syncope. The patient was a seemingly healthy married woman, aged 42 years, the mother of three children, in whom there was no evidence of any cardiac or arterial disease or organic disease of any of the viscera. Her illness began 14 months before admission to hospital by a fit of unconsciousness, in which she fell, and which was followed by many similar slight syncopal attacks. She was delivered of a healthy child three months before being under Dr. Finny's care. The child died at the age of seven weeks from convulsions, and since his death the "weaknesses" had become more frequent—as many as 12 occurring in a day. The woman's pulse-rate on admission in June, 1905, and all

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ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 6th, Mr. W. Campbell M'Donnell, the President, being in the chair.—Dr. H. P. Miller gave a demonstration of the following eye cases: 1. Markedly Opaque Nerve Fibres. 2. Old Trachoma which had been under treatment 12 months but was now nearly well. 3. Congenital Cataract with good vision after needling; the margin of the lens capsule could be seen. 4. Congenital Glaucoma, with deep anterior chambers. The eyes were enlarged and the corneæ bulging. 5. Glaucoma of the Right Eye, with deep anterior chamber and lenticular opacities. The tension was markedly plus and the vision nil. 6. Old Iritis, showing irregular pupil and atrophied iris. The eye was soft; the tension was minus and the vision nil. 7. Interstitial Keratitis, Cyclitis, and Keratitis Punctata. 8. Old Iritis, Cyclitis, and Episcleritis, for which iridectomy had been performed. 9. Adherent Leukoma from Corneal Ulcer. There was prolapse of the iris and the pupil was displaced from the adherent iris. 10. Left Corneal Ulcer, showing spots of infiltration in the cornea and deep anterior chamber. 11. Xerosis of Conjunctiva. 12. Tremulous Iris and Dislocation of Lens.—The following office-bearers were elected for the session 1906–07: President: Dr. J. R. T. Conner. Honorary secretary: Dr. David Ross. Honorary treasurer and curator: Dr. B. G. Morison. Council: Dr. W. Langdon Brown, Dr. Leslie Durno, Mr. G. Angus Hunt, Mr. W. Campbell M'Donnell, and Dr. J. S. Risien Russell.

NEWCASTLE-UPON-TYNE CLINICAL SOCIETY.—A meeting of this society was held on April 12th.—The following cases were shown:—Dr. J. Hudson: Syringomyelia.—Dr. D. W. Patterson: Cases of Lupus Erythematosus, Ichthyosis, Dermatitis Herpetiformis, and Morphœa, and illustrations of the Therapeutic Effects of X Rays in Dermatology.—Mr. T. G. Ouston: Thyrotomy for Papilloma three years after operation; case after Astragalectomy.—Mr. J. Clay: Tertiary Syphilitic Lesions; Stricture treated by External Urethrotomy; specimen of Tubal Abortion.—Mr. J. W. Leech: A series of cases of Malignant Disease—Specific Glossitis, a patient after operation for Thyroglossal Dermoid and varieties of Gall-stones.—The following officers were elected for next session, 1906–07.—President: Mr. W. H. Vickery. Vice-President: Mr. T. G. Ouston. Treasurer: Mr. G. G. Turner. Secretary: Mr. J. W. Leech. Committee: Mr. G. Foggin, Mr. J. Clay, Mr. W. Martin, Dr. M. N. Maclay, Dr. J. S. McCraken, Mr. T. H. Livingstone, Dr. R. A. Bolam, Dr. T. Beattie, Dr. W. Hardcastle, Dr. D. W. Patterson, Mr. H. B. Angus, and Dr. R. S. Hindmarch.

HUNTERIAN SOCIETY.—A meeting of this society was held on April 11th, Mr. John Poland being in the chair.—Mr. Jonathan Hutchinson opened a discussion on Syphilis and gave a most interesting account of the history of the disease and its treatment, and suggested some points which required elucidation.—Dr. G. H. Savage spoke on the Relation of Syphilis to Insanity.—Dr. J. Purves Stewart spoke on the Relation of Syphilis to some Diseases of the Central Nervous System and discussed the diagnosis of tabes and general paralysis of the insane by examination of the cerebro-spinal fluid.—Dr. W. Hale White spoke on Visceral Syphilis, illustrating his remarks by exhibition of museum specimens.—Mr. T. P. Beddoes also spoke.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on April 11th.—The following cases and specimens were shown. Dr. H Campbell Thomson: Cerebellar Tumour.—Mr. P. Macleod Yearsley: Specimens of Neoplasms of the External Ear.—Mr. C. Ryall: A case of Ileo-colostomy; specimen of Malignant Disease of the Rectum; and specimen of the Stomach and Intestine of an Infant with Congenital Absence of the Small Intestine.—Dr. S. Verdon Roe: Salivary Calculus.—Mr. E. J. Pritchard: A case of Absolute Loss of Voice for over a year.—Dr. J. T. Thyne: An Armless and Legless Man; and a case of Nævus of the Hand.—Dr. D. Kernohan: A case of Pernicious Anæmia.

Reviews and Notices of Books.

Criminal Statistics, England and Wales, 1904: Statistics relating to Criminal Proceedings, Police, Coroners, Prisons, Reformatory and Industrial Schools, and Criminal Lunatics, for the Year 1904. Edited by W. J. FARRANT. London: Wyman and Sons, Limited. Pp. 204. Price 1*s.* 7*d.*

AMONGST the official publications in this country that are of special interest to the student of sociology, the volume of criminal statistics which is issued annually by the Home Office may rank as one of the most important. The information which it embodies, referring, as it does, to the police returns of the amount and distribution of crime, to the proceedings of the several courts taking cognisance of criminal offences, to coroners' inquests, and to the populations of prisons, reformatories, and criminal lunatic asylums, presents a series of views of different and mutually illuminating aspects of the movement of crime which, taken together, form a complete guide to this department of *Moralstatistik.*

In the latest volume, which deals with the year 1904, the annual tables are arranged, except for some minor details, in the form adopted when the statistics were revised in 1892. As in previous issues they are preceded by a series of comparative tables illustrating the periodic variations in the amount of crime absolutely and relatively to population and the differences in its regional distribution. The general introduction, which is contributed by the editor, is confined this year to a summary of the principal figures,

In 1904 crime as a whole increased. The figures for the year, compared with the corresponding figures for 1903 and with the annual average for the five years 1900–04, show a distinct rise in the total volume of criminality, whether measured by the number of indictable offences reported to the police, by the number of persons tried or the number of persons convicted of such offences, or by the numbers of the prison population. The number of persons tried for indictable crimes, which is usually taken as the surest index of the movement of criminality, amounted in 1904 to 59,960, or 178 per 100,000 of population, the proportion in the previous year being 175 and in the quinquennial period 1900–04, 172 per 100,000. It thus appears that the growth of crime, which set in after 1899, following on a long period of steady decline, has not yet ceased. This way of stating the matter is, however, misleading, for it fails to take account of the fact that the term crime does not indicate any single and definite mode of conduct but is merely a general label for a heterogeneous collection of acts and omissions that have no common character save that of illegality. In reality, of course, the conditions that give rise to the several forms of

Musculo-spiral Paralysis. There had been a good recovery four months after operation.—Dr. W. R. Smith showed a patient with a Primary Chancre on the Lip.—Dr. F. H. Jacob showed a case of Ophthalmoplegia.—Mr. R. C. Chicken showed the following pathological specimens: (1) Hæmatosalpinx from a case of Pelvic Hæmatocele previously to Tubal Abortion; (2) Hæmatosalpinx from a case of Pelvic Hæmatocele during Tubal Abortion; (3) Ovary and Cyst from a case of Pelvic Hæmatocele due to *Ruptured Hæmatosalpinx*; *(4) Hydrosalpinx*; *(5) Rectum* removed by Kraske's operation for Carcinoma; and (6) Three Thickened Internal Alar Ligaments from so-called cases of "split semilunar cartilage."—Mr. Chicken also read a short paper entitled "A few Notes on Pelvic Hæmatocele."—Mr. Hogarth read a paper on the Causation, Diagnosis, and Treatment of Intussusception, based on a large number of cases on which he had operated during recent years. After drawing attention to the usual forms and giving notes of cases he described two cases in which the appendix vermiformis seemed to be the cause and formed (inverted) the apex of the intussusception. This was a condition which up to now had been overlooked or not recognised. The diagnosis from other conditions was fully discussed and the importance was pointed out of an early diagnosis before the occurrence of blood and mucus in the stools.—Dr. W. Hunter, Mr. W. Morley Willis, Dr. C. H. Cattle, Dr. Jacob, Dr. Thomson Henderson, Mr. Chicken, and others discussed the paper.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 6th, Mr. W. Campbell M'Donnell, the President, being in the chair.—Dr. H. P. Miller gave a demonstration of the following eye cases: 1. Markedly Opaque Nerve Fibres. 2. Old Trachoma which had been under treatment 12 months but was now nearly well. 3. Congenital Cataract with good vision after needling; the margin of the lens capsule could be seen. 4. Congenital Glaucoma, with deep anterior chambers. The eyes were enlarged and the corneæ bulging. 5. Glaucoma of the Right Eye, with deep anterior chamber and lenticular opacities. The tension was markedly plus and the vision nil. 6. Old Iritis, showing irregular pupil and atrophied iris. The eye was soft; the tension was minus and the vision nil. 7. Interstitial Keratitis, Cyclitis, and Keratitis Punctata. 8. Old Iritis, Cyclitis, and Episcleritis, for which iridectomy had been performed. 9. Adherent Leukoma from Corneal Ulcer. There was prolapse of the iris and the pupil was displaced from the adherent iris. 10. Left Corneal Ulcer, showing spots of infiltration in the cornea and deep anterior chamber. 11. Xerosis of Conjunctiva. 12. Tremulous Iris and Dislocation of Lens.—The following office-bearers were elected for the session 1906–07: President: Dr. J. R. T. Conner. Honorary secretary: Dr. David Ross. Honorary treasurer and curator: Dr. B. G. Morison. Council: Dr. W. Langdon Brown, Dr. Leslie Durno, Mr. G. Angus Hunt, Mr. W. Campbell M'Donnell, and Dr. J. S. Risien Russell.

NEWCASTLE-UPON-TYNE CLINICAL SOCIETY.—A meeting of this society was held on April 12th.—The following cases were shown:—Dr. J. Hudson: Syringomyelia.—Dr. D. W. Patterson: Cases of Lupus Erythematosus, Ichthyosis, Dermatitis Herpetiformis, and Morphœa, and illustrations of the Therapeutic Effects of X Rays in Dermatology.—*Mr. T. G. Ouston: Thyrotomy for Papilloma* three years after operation; case after Astragalectomy.—Mr. J. Clay: Tertiary Syphilitic Lesions; Stricture treated by External Urethrotomy; specimen of Tubal Abortion.—Mr. J. W. Leech: A series of cases of Malignant Disease—Specific Glossitis, a patient after operation for Thyroglossal Dermoid and varieties of Gall-stones.—The following officers were elected for next session, 1906–07.—President: Mr. W. H. Vickery. Vice-President: Mr. T. G. Ouston. Treasurer: Mr. G. G. Turner. Secretary: Mr. J. W. Leech. Committee: Mr. G. Foggin, Mr. J. Clay, Mr. W. Martin, Dr. M. N. Maclay, Dr. J. S. McCraken, Mr. T. H. Livingstone, Dr. R. A. Bolam, Dr. T. Beattie, Dr. W. Hardcastle, Dr. D. W. Patterson, Mr. H. B. Angus, and Dr. R. S. Hindmarch.

HUNTERIAN SOCIETY.—A meeting of this society was held on April 11th, Mr. John Poland being in the chair.—Mr. Jonathan Hutchinson opened a discussion on Syphilis and gave a most interesting account of the history of the disease and its treatment, and suggested some points which required elucidation.—Dr. G. H. Savage spoke on the Relation of Syphilis to Insanity.—Dr. J. Purves Stewart spoke on the Relation of Syphilis to some Diseases of the Central Nervous System and discussed the diagnosis of tabes and general paralysis of the insane by examination of the cerebro-spinal fluid.—Dr. W. Hale White spoke on Visceral Syphilis, illustrating his remarks by exhibition of museum specimens.—Mr. T. P. Beddoes also spoke.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on April 11th.—The following cases and specimens were shown. Dr. H Campbell Thomson: Cerebellar Tumour.—Mr. P. Macleod Yearsley: Specimens of Neoplasms of the External Ear.—Mr. C. Ryall: A case of Ileo-colostomy; specimen of Malignant Disease of the Rectum; and specimen of the Stomach and Intestine of an Infant with Congenital Absence of the Small Intestine.—Dr. S. Verdon Roe: Salivary Calculus.—Mr. E. J. Pritchard: A case of Absolute Loss of Voice for over a year.—Dr. J. T. Thyne: An Armless and Legless Man; and a case of Nævus of the Hand.—Dr. D. Kernohan: A case of *Pernicious* Anæmia.

Reviews and Notices of Books.

Criminal Statistics, England and Wales, 1904: Statistics relating to Criminal Proceedings, Police, Coroners, Prisons, Reformatory and Industrial Schools, and Criminal Lunatics, for the Year 1904. Edited by W. J. FARRANT. London: Wyman and Sons, Limited. Pp. 204. Price 1*s*. 7*d*.

AMONGST the official publications in this country that are of special interest to the student of sociology, the volume of criminal statistics which is issued annually by the Home Office may rank as one of the most important. The information which it embodies, referring, as it does, to the police returns of the amount and distribution of crime, to the proceedings of the several courts taking cognisance of criminal offences, to coroners' inquests, and to the populations of prisons, reformatories, and criminal lunatic asylums, presents a series of views of different and mutually illuminating aspects of the movement of crime which, taken together, form a complete guide to this department of *Moralstatistik*.

In the latest volume, which deals with the year 1904, the annual tables are arranged, except for some minor details, in the form adopted when the statistics were revised in 1892. As in previous issues they are preceded by a series of comparative tables illustrating the periodic variations in the amount of crime absolutely and relatively to population and the differences in its regional distribution. The general introduction, which is contributed by the editor, is confined this year to a summary of the principal figures,

In 1904 crime as a whole increased. The figures for the year, compared with the corresponding figures for 1903 and with the annual average for the five years 1900–04, show a distinct rise in the total volume of criminality, whether measured by the number of indictable offences reported to the police, by the number of persons tried or the number of persons convicted of such offences, or by the numbers of the prison population. The number of persons tried for indictable crimes, which is usually taken as the surest index of the movement of criminality, amounted in 1904 to 59,960, or 178 per 100,000 of population, the proportion in the previous year being 175 and in the quinquennial period 1900–04, 172 per 100,000. It thus appears that the growth of crime, which set in after 1899, following on a long period of steady decline, has not yet ceased. This way of stating the matter is, however, misleading, for it fails to take account of the fact that the term crime does not indicate any single and definite mode of conduct but is merely a general label for a heterogeneous collection of acts and omissions that have no common character save that of illegality. In reality, of course, the conditions that give rise to the several forms of favour of the oily solutions of the alkaloids. He rightly points out in the first place that aqueous collyria are not easy to administer satisfactorily. Their instillation often gives rise to profuse lacrymation and blepharospasm, thereby rendering the local effect of the application very uncertain and often abortive. At the same time, excess of the lotion may be easily carried over the cheek into the mouth, or it may reach the œsophagus through the lacrymal duct and pharynx and set up symptoms of poisoning by absorption. All these difficulties are avoided by the use of the oily collyria. They can be instilled into the eye accurately drop by drop without exciting any lacrymation or spasm, and the drops are quickly diffused over the surface of the eyeball, producing the desired effect with precision and rapidity. By comparative experiments on animals Dr. Scrini was able to show, by dropping an aqueous solution into one eye and an oily solution into the other, that the effect of the latter appeared more rapidly and lasted longer. Oily solutions have the further great advantage that they remain sterile, whereas the aqueous collyria of the alkaloids become easily infected with micro-organisms. Moreover, eserine readily decomposes in water, forming an irritating product known as *rubreserine* on account of the rose-red colour which it gives to the solution. No such decomposition takes place in oil. Ointments share with the oily collyria many of the advantages over aqueous solutions but they are liable to set up irritation on account of the fatty acids of decomposition which they may contain. Of the many oils which may be employed Dr. Scrini gives the preference to olive oil. Castor oil and almond oil irritate the conjunctiva and hydrocarbon oils do not dissolve the alkaloids in sufficient strength. In all cases the alkaloid base must be used. The oil should be first shaken with alcohol, decanted, and sterilised by heating to 120° C. Oily collyria have not received much favour in this country on account of the natural objection to the use of oily materials and their liability to soil the clothing of the patient. But there is also a serious objection to the use of homatropine in oily solution, as an oily film is formed over the cornea, which persists for some time and renders retinoscopic observations very difficult. The employment of a fatty or oily menstruum or vehicle for the application of remedial agents to the eye is no new thing. Perhaps the most commonly used medicament that is on the table of every ophthalmic surgeon is the binoxide of mercury and this is almost always made up with vaseline or with lard or glycerine or lanoline. Iodoform, as well as the various mydriatics and myotics, are not infrequently employed in the same manner. The chief objection to oil is its liability to become rancid owing to the formation by oxidation of the fatty acids. In Italy and France, where perfectly fresh olive oil can easily be obtained, this objection may not hold, but in this country such oil is not procurable and pomades or ointments so made would prove both irritating and painful to eyes already inflamed.

International Clinics. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia. Vol. IV., Fourteenth Series. London and Philadelphia: J. B. Lippincott Company. 1905. Pp. 314.—A vigorous protest against the excessive use of drugs in the treatment of chronic diseases, with reference to medicinal intoxication, comes from Dr. George Hayem, and his conclusions in favour of "hygienic modifiers" when specific or serotherapeutic agents are useless must be regarded as the outcome of a certain disappointment with the results of pure empiricism; but is he not flogging a dead horse? There are few who would in these days admit that their treatment is *empirical*, though probably many share with him the distrust of the excessive use of drugs, a habit which is to a great extent to be laid at the doors of those of the public who assume the responsibility of prescribing for themselves. Dr. Adolphe Javal of Paris deals with the indications for the dechloridation treatment in an article which perplexes by its combination of French and American spelling of many chemical and technical terms. The value of radium in the treatment of lupus, rodent ulcer, and epithelioma is illustrated by numerous figures and it is claimed that good results have been obtained with it, though it is admitted that sufficient time has not elapsed to permit of claims for a permanent cure. Professor Senator deals with the clinical significance of albumosuria and maintains that if albuminous urine is boiled for a long time albumoses may be formed from the albumin. This volume also includes interesting lectures upon functional heart murmurs, upon several surgical subjects, and upon amœbic infection of the intestine and liver.

First Aid to the Injured and Sick. By F. J. WARWICK, B.A., M.B. Cantab., M.R.C.S. Eng., late Captain R.A.M.C., and A. C. TUNSTALL, M.D., F.R.C.S. Edin. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1906. Pp. 242. Price, paper, 1*s.*; cloth, 2*s.*—We have received a copy of the fourth edition of this useful little handbook, which contains all the information necessary for the instruction of an advanced ambulance class. The text of this edition has been thoroughly revised by the authors, both of whom are experienced ambulance lecturers, and illustrations have been added to the chapters on Digestion and Excretion which must help to explain to first-aid students subjects which they necessarily find very difficult. We have nothing but praise for an excellent and practical little manual, but the authors might take an early opportunity of giving the artist who drew their ornamental cover a hint or two on anatomy.

Materia Medica and Therapeutics. By J. MITCHELL BRUCE, M.A., LL.D. Aberd., M.D. Lond. London: Cassell and Company. 1905. Pp. 632. Price 7*s.* 6*d.*—This appears to be the seventh edition of this text-book, or the sixth occasion on which it has been revised; at any rate, on the title-page it is indicated that it is the forty-seventh thousand and accordingly the task of the reviewer is light, since the book has made its mark and needs no words of commendation. There are, however, some new features which deserve mention. The size has been increased owing to the inclusion of an account of the materia medica and therapeutics of the drugs in the Indian and Colonial Addendum to the British Pharmacopœia and to the introduction of greater detail respecting the chemical and pharmaceutical relations of the individual drugs. The Indian and Colonial additions are grouped together and placed in alphabetical order, an arrangement which, it may be hoped, will facilitate certain omissions which appear to be desirable, to judge from the small amount of information respecting their actions and uses. On two pages in this section (p. 444 and p. 445) the omission of the line ordinarily used between paragraphs relating to different drugs may give rise to momentary confusion of thought. In the parts relating to the drugs employed in this country space has been found for the inclusion of many new remedies which are not official, such as urotropine, trional, veronal, aspirin, and citarin. The relative importance of these substances is not to be gauged by the relative amount of space allotted to them. Mention has already been made of the greater attention to the chemical relations in this edition; this is necessarily shown to greatest advantage in connexion with the carbon compounds, but it may be regretted that the author has not adopted a consistent plan; as examples may be cited the representations of the composition of sulphonal and of phenazonum which occur on the same page. In spite of the minor blemishes referred to there can be no doubt that this book merits the favour with which it has been received by successive generations of students and it may be further stated

Victor Cox Pedersen who holds many appointments in New York and who states in his preface that it is intended that the series, as a whole, should embrace the entire realm of medicine and that in the individual volumes the maximum of information in letterpress and engravings should be given for a minimum price. This volume contains no engravings, hence the letterpress must be more costly than in other illustrated volumes of the series. There is no list of the other volumes included in that at present under consideration but one on Diseases of the Nose and Throat is mentioned in the author's preface, while another on Diseases of the Nervous System is referred to in the section on Tuberculosis. The classification of Osler has been followed closely throughout and the material has been arranged systematically under each disease in the familiar form of definition, etiology, pathology, symptoms, complications and sequelæ, diagnosis, prognosis, and treatment. The marvel is that within the space so much information is compressed. It is stated that the work is intended for "hasty reference" by practitioners, as well as for the use of students. For hasty reference it appears to be admirable; for the use of students revising in a hurry before an examination it may be of service, but we would warn all others that the attempt to study medicine in this condensed form will be speedily provocative of a kind of mental shortness of breath. The book is obviously a skilful compression of one or more larger works and the facts are accurate and represent recent advances but, perhaps because of its Transatlantic origin, it inevitably suggests the idea of the quick luncheons which we owe to the same source and it is very filling at the price. Personally we prefer a more leisurely meal.

The Physiology and Therapeutics of the Harrogate Waters, Baths, and Climate Applied to the Treatment of Chronic Disease. By WILLIAM BAIN, M.D. Durh., and WILFRID EDGECOMBE, M.D. Lond. London: Longmans, Green, and Co. 1905. Pp. 300. Price 7*s*. 6*d*. net.

AN attempt is here made to supply evidence showing that the therapeutics of the local waters and baths rest on a secure foundation comparable to that of drug therapeutics. Separate sections are devoted to the waters, baths, and climate, and in each section members of the medical profession, for whom the book has been written, will find much that is instructive. In the first section upon the pharmacology and therapeutics of the natural mineral waters the authors acknowledge their indebtedness to Professor T. G. Brodie for many helpful suggestions and it will be remembered that the same writer contributed the physiological sections in the text-book of medical practice edited by Dr Bain and favourably reviewed in these columns.

Many will be surprised to learn that Harrogate possesses no less than 80 springs of different chemical constitution and that about 16 of these are used internally, the remainder being devoted to bathing purposes. In contrast to some of the continental spas, it is openly admitted that in their natural state the waters are athermal and that they are heated artificially. Speaking in general terms, a saline constituent is common to all, together with other compounds either of sulphur or of iron. This permits of their classification into two divisions: (1) saline-sulphur waters; and (2) saline-chalybeate waters, each again being subdivided into strong, medium, or mild according to the amount of solids present. Considering the waters individually, the first place is assigned to the Old Sulphur Spring which is regarded as being unquestionably the most valuable water which Harrogate possesses. The authors describe its pharmacology and give tables showing its influence upon the excretion of urea, of uric acid, and of sulphates. The effects on the blood and upon the function of the liver are also demonstrated by charts and tables which represent the results of many experimental researches. The authors state that they believe that the value of the water would be enhanced if it contained less hydrogen sulphide, and without venturing to question this belief many for whom this water has been prescribed will agree that it would be more readily taken if this ingredient could be reduced or if its presence could be rendered less aggressively obvious. Considering the importance of the water the account of its therapeutic action appears somewhat meagre and unconvincing; there is not much guidance in the statement that "the water is prescribed with varying degrees of success" in seven or eight conditions which are here enumerated. The composition of each of the other mineral waters is considered in turn and to each are assigned a paragraph on pharmacology and one on therapeutics; frequently a chemical analysis of some 20 years ago is followed by a skeleton analysis of recent date and thus an opportunity is afforded of judging the slight variations in composition which have occurred during the interval. The classification of the baths of Harrogate is sufficient to demonstrate the vigour with which the supply has been made to meet the demand: there are thermal baths, thermo-chemical baths, thermo-mechanical baths, thermo-electric baths, and electric baths, and the number included under each of these headings brings up the total to a high figure. The thermo-chemical baths are, of course, those which may be regarded as belonging specially to Harrogate; it is, however, useful to have in these pages a general account of the physiological action of baths and of their therapeutic uses.

Special pleading is to be expected so soon as the climate of a health resort is approached. We do not for one moment doubt the accuracy of the figures in all the tables relating to the meteorological data (they have been supplied by the meteorologist to the Harrogate corporation) but it is impossible not to feel that the districts and towns selected for purposes of comparison seem to have been chosen rather arbitrarily. They vary in the different tables and Harrogate nearly always appears to advantage under this system of comparison.

The fourth section gives an interesting analysis of cases sent to Harrogate for spa treatment; conditions termed "gout and goutiness" head the list, and they are closely followed by skin diseases of undefined nature, while forms of rheumatism, diseases of the liver, neurasthenia, and diseases of the stomach also account for considerable numbers of visitors. This list in round numbers accounts for four-sevenths of the visitors, the remaining three-sevenths coming with no less than 41 different types of disease. This concluding section on the treatment of chronic disease is necessarily rather brief, since the authors have rigorously excluded reference to individual cases but none the less it opens up vistas of hope for numbers who are depressed by the torments of chronic maladies. The authors repeatedly remark that each case should be treated on its merits and this wise reserve is far more likely to be productive of benefit than if they had been unduly optimistic. They are to be congratulated upon the success with which they have vindicated the favourable attitude which they maintain towards the spa treatment of chronic disease.

LIBRARY TABLE.

De l'Emploi des Alcaloïdes en Solution Huileuse. (*On the Employment of Alkaloids in Oily Solution.*) By Dr. SCRINI. Paris: Vigot Frères. 1906. Pp. 108. Price Fr. 2.50.—It is already well known to ophthalmic surgeons in this country that oily solutions of the alkaloids possess certain advantages over the aqueous solutions as collyria but they have not received general adoption except perhaps in the case of eserine. In this monograph Dr. Scrini sets forth in detail the reasons which have led him to abandon all other forms of collyria, especially aqueous solutions and ointments, in favour of the oily solutions of the alkaloids. He rightly points out in the first place that aqueous collyria are not easy to administer satisfactorily. Their instillation often gives rise to profuse lacrymation and blepharospasm, thereby rendering the local effect of the application very uncertain and often abortive. At the same time, excess of the lotion may be easily carried over the cheek into the mouth, or it may reach the œsophagus through the lacrymal duct and pharynx and set up symptoms of poisoning by absorption. All these difficulties are avoided by the use of the oily collyria. They can be instilled into the eye accurately drop by drop without exciting any lacrymation or spasm, and the drops are quickly diffused over the surface of the eyeball, producing the desired effect with precision and rapidity. By comparative experiments on animals Dr. Scrini was able to show, by dropping an aqueous solution into one eye and an oily solution into the other, that the effect of the latter appeared more rapidly and lasted longer. Oily solutions have the further great advantage that they remain sterile, whereas the aqueous collyria of the alkaloids become easily infected with micro-organisms. Moreover, eserine readily decomposes in water, forming an irritating product known as *rubréserine* on account of the rose-red colour which it gives to the solution. No such decomposition takes place in oil. Ointments share with the oily collyria many of the advantages over aqueous solutions but they are liable to set up irritation on account of the fatty acids of decomposition which they may contain. Of the many oils which may be employed Dr. Scrini gives the preference to olive oil. Castor oil and almond oil irritate the conjunctiva and hydrocarbon oils do not dissolve the alkaloids in sufficient strength. In all cases the alkaloid base must be used. The oil should be first shaken with alcohol, decanted, and sterilised by heating to 120° C. Oily collyria have not received much favour in this country on account of the natural objection to the use of oily materials and their liability to soil the clothing of the patient. But there is also a serious objection to the use of homatropine in oily solution, as an oily film is formed over the cornea, which persists for some time and renders retinoscopic observations very difficult. The employment of a fatty or oily menstruum or vehicle for the application of remedial agents to the eye is no new thing. Perhaps the most commonly used medicament that is on the table of every ophthalmic surgeon is the binoxide of mercury and this is almost always made up with vaseline or with lard or glycerine or lanoline. Iodoform, as well as the various mydriatics and myotics, are not infrequently employed in the same manner. The chief objection to oil is its liability to become rancid owing to the formation by oxidation of the fatty acids. In Italy and France, where perfectly fresh olive oil can easily be obtained, this objection may not hold, but in this country such oil is not procurable and pomades or ointments so made would prove both irritating and painful to eyes already inflamed.

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First Aid to the Injured and Sick. By F. J. WARWICK, B.A., M.B. Cantab., M.R.C.S. Eng., late Captain R.A.M.C., and A. C. TUNSTALL, M.D., F.R.C.S. Edin. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1906. Pp. 242. Price, paper, 1*s.*; cloth, 2*s.*—We have received a copy of the fourth edition of this useful little handbook, which contains all the information necessary for the instruction of an advanced ambulance class. The text of this edition has been thoroughly revised by the authors, both of whom are experienced ambulance lecturers, and illustrations have been added to the chapters on Digestion and Excretion which must help to explain to first-aid students subjects which they necessarily find very difficult. We have nothing but praise for an excellent and practical little manual, but the authors might take an early opportunity of giving the artist who drew their ornamental cover a hint or two on anatomy.

Materia Medica and Therapeutics. By J. MITCHELL BRUCE, M.A., LL.D. Aberd., M.D. Lond. London: Cassell and Company. 1905. Pp. 632. Price 7*s.* 6*d.*—This appears to be the seventh edition of this text-book, or the sixth occasion on which it has been revised; at any rate, on the title-page it is indicated that it is the forty-seventh thousand and accordingly the task of the reviewer is light, since the book has made its mark and needs no words of commendation. There are, however, some new features which deserve mention. The size has been increased owing to the inclusion of an account of the materia medica and therapeutics of the drugs in the Indian and Colonial Addendum to the British Pharmacopœia and to the introduction of greater detail respecting the chemical and pharmaceutical relations of the individual drugs. The Indian and Colonial additions are grouped together and placed in alphabetical order, an arrangement which, it may be hoped, will facilitate certain omissions which appear to be desirable, to judge from the small amount of information respecting their actions and uses. On two pages in this section (p. 444 and p. 445) the omission of the line ordinarily used between paragraphs relating to different drugs may give rise to momentary confusion of thought. In the parts relating to the drugs employed in this country space has been found for the inclusion of many new remedies which are not official, such as urotropine, trional, veronal, aspirin, and citarin. The relative importance of these substances is not to be gauged by the relative amount of space allotted to them. Mention has already been made of the greater attention to the chemical relations in this edition: this is necessarily shown to greatest advantage in connexion with the carbon compounds, but it may be regretted that the author has not adopted a consistent plan; as examples may be cited the representations of the composition of sulphonal and of phenazonum which occur on the same page. In spite of the minor blemishes referred to there can be no doubt that this book merits the favour with which it has been received by successive generations of students and it may be further stated that infinite pains have been taken to make the book a safe guide for students and a convenient work of reference for practitioners. It is 22 years since the publication of the first edition and yet, from the freshness of style and from the assimilation of recent work, the book still presents an air of youthful vigour.

JOURNALS AND MAGAZINES.

The Bristol Medico-Chirurgical Journal.—The March number opens with a full and interesting paper on Anti-tuberculous Vaccines and Sera, by Dr. J. M. Fortescue-Brickdale. He notes that about 20 of such specific remedies have been prepared and tried, but the results are on the whole small. Tuberculin is, however, regaining some measure of favour and Marmorek's serum has given some encouraging results. Dr. J. J. S. Lucas deals with the Prognosis of Pulmonary Tuberculosis and Dr. P. Watson Williams with Defective Nasal Respiration. Dr. J. R. Charles discusses the Effects of Fright in Medicine and cases of Acute Yellow Atrophy of the Liver are recorded by Dr. F. H. Edgeworth and by Dr. Bertram M. H. Rogers.

The Edinburgh Medical Journal (April).—Mr. H. Alexis Thomson writes an interesting article on Brodie's Abscess of Bone; a table of cases shows that the condition occurs in the head of the tibia in more than one-third of all cases. The bacterium at work is generally streptococcus aureus, but streptococcus albus and bacillus typhosus also occur. Another surgical paper of importance is that by Mr. Alexander Miles on Epigastric Hernia (incidentally we may be permitted to wonder whether the spelling ziphisternum here occurring is a misprint or the latest Americanism). Dr. A. Haig once more affirms his belief in the toxicity of uric acid and its importance in gout, as well as in the scheme of diet which he has elaborated to combat the poison. A case of Leukanæmia is recorded by Dr. F. G. Bushnell and Dr. Donald G. Hall and one of Keratosis of the Larynx by Mr. A. Logan Turner.

The Scottish Medical and Surgical Journal (April).—This number opens with the Presidential Address delivered by Mr. George Rose to the Aberdeen Medico-Chirurgical Society on Acute Disease of Bone in Children. Mr. Charles W. Cathcart writes on the Treatment of Acute Inflammation by Bier's method of passive congestion, attributing part at least of the good effects produced to changes in arterial blood-pressure and claiming that this method cures early stages of inflammation before suppuration has developed and limits this process when it has occurred. Dr. W. G. Aitchison Robertson writes in praise of Uhlenhuth's precipitin test for blood-stains, and a special article is contributed by Dr. Edwin Bramwell on the Colony System of Treating Epileptics.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S.; D. J. CUNNINGHAM, M.D., F.R.S.; G. S. HUNTINGTON, M.D.; A. MACALISTER, F.R.S.; and J. G. M'KENDRICK, F.R.S. Vol. XL. Third Series, Vol. I., Part 3. With Plates and Illustrations in the Text. London: Charles Griffin and Company. 1906. Pp. 115. Published quarterly at 6*s.* each part.—1. The first article in this number is on the Surgical Anatomy of the Prostate, by J. W. Thomson Walker, F.R.C.S. Eng. The author gives a careful description of the sheath of the prostate or the fascia in which the prostate lies as an egg fills an egg cup, except at the apex, where the fascia becomes incorporated with the striped muscle surrounding the urethra. The relation of the prostate to the base of the bladder is then given, with drawings showing the appearances presented on section. The striped muscle of the prostate, the prostatic plexus of veins, the prostatic urethra, the arrangement of the gland tissue, and the seminal vesicles are successively considered and are illustrated by excellent drawings. 2. On the Anatomy of the Calamus Region in the Human Bulb, with an account of a hitherto undescribed "Nucleus Postremus," by J. T. Wilson, professor of anatomy in the University of Sydney, N.S.W. This article is a valuable contribution, with accurate illustrations, to our knowledge of a rather neglected portion of cerebral anatomy. 3. Notes on the Coronal Suture, by F. G. Parsons. 4. A Note on the Topographical Anatomy of the Caput Gyri Hippocampi, by Johnson Symington, F.R.S. 5. The Vermiform Appendix of Man and the Structural Changes therein Coincident with Age, by Richard J. A. Berry, F.R.S. Edin., and L. A. H. Lack, M.B. Edin., an able contribution to this subject which we have fully considered in another column. 6. Experimental Contribution to a Theory of Thinking, by Henry J. Watt, M.A., Ph.D., Carnegie Fellow. In these experiments several hundred nouns of common occurrence were printed in big type on cards and were shown to the observing subject one at a time by means of Dr. Ach's automatic card changer; a metal plate which covered the card sprang up when a string was pulled and by so doing closed an electric current which flowed through a Hipp chronoscope and a Cattell's speaking-tube. The chronoscope, therefore, marked the time which passed from the appearance of the printed word until the first vibrations from the subject's voice broke the current in the speaking-tube. This constituted the measure of the reaction and formed, with a full account of all the reproducible experiences of the observing subject which were at once written down, the experimental data of the thesis. Definite tasks were given in each experiment which the subject had to accomplish in the reaction, such as the classification of the printed word, the naming of an example of it, or of its parts, or of some other animal, plant or object in the same group. The results, too long to be here abstracted, are interesting and deserve the attention of psychologists. 7. On Some Minor Markings on Bones, by J. Ernest Frazer, F.R.C.S. Eng. 8. On the Presence of Elastic Fibres in the Cornua, by J. Hamilton M'Ilroy, M.B., B.Sc., Carnegie research scholar. 9. A report (sixteenth) on Recent Teratological Literature, by Bertram C. A. Windle, M.D. Dub., F.R.S. 10. An Unusual Displacement of the Heart, by David Waterston, M.A., M.D. Edin. The displacement was met with in a teal (Querquedula).

Looking Back.

FROM
THE LANCET, *SATURDAY*, April 19th, 1828.

EPIGRAM

On the Patient who suddenly decamped from Guy's Hospital.[*]

When Cooper's *nevey* cut for stone,
His toils were long and heavy;
This patient quicker parts has shown,
He *soon out* Cooper's *nevey.*[1]

[1] The accusation of malpraxis against Mr. Bransby Cooper made in THE LANCET, and on which this epigram was founded, resulted in his bringing a well-known libel action against the Editor.

THE official Asses of Guy's Hospital, have posted the following sensible notice at the Lodge. If these worthies are really desirous of a contest with the Press, let them come on—

"And damn'd be he that first cries, hold, enough.";

Guy's Hospital, April 8, 1828.

Order,—That, in consequence of untrue and unprofessional statements, relating to this Hospital, having appeared in THE LANCET, no person who reports for, or is in any way connected with that publication, shall be at liberty to attend the practice, or the schools of this Hospital.

JAMES BROWELL, Steward.

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[*] See LANCET of . p. 49.

THE LANCET.

LONDON: SATURDAY, APRIL 21, 1906

Hospital Management.

The essay on the Economical Management of an Efficient Voluntary Hospital, by Mr. G. H. Hamilton, to which the prize of £100 and a silver cup offered by Mr. E. Speyer has been awarded, and the essay upon the same subject by Mr. E. W. Morris, which was placed next in order of merit and for which its author received a special prize of £50, have been published in pamphlet form at the modest price of 6*d.* and, taken together, may be assumed to contain all that two hospital secretaries of great experience have thought it necessary to say upon the subject which has exercised their thoughts and pens. Mr. Hamilton, we need hardly add, is secretary to the National Hospital for the Paralysed and Epileptic, which a few years ago was the scene of a successful struggle on the part of the medical staff to obtain a proper share in its management; and Mr. Morris is secretary to the London Hospital, which, under the skilful and energetic control of the Hon. Sydney Holland, has for many years set an example to other institutions of like kind in the directions both of successful money-getting and of enlightened expenditure. It may be that having regard to the terms and conditions under which Mr. Speyer's prize was offered for competition the prize has gone to the right quarter, but if literary style counted we should be inclined to reverse the verdict of the judges and to give the first place to the essay by Mr. Morris. For in our opinion Mr. Hamilton is diffuse in his treatment of the obvious and not happy in his modes of expression.

A considerable part of the ground covered by both essays is connected with hospitals merely in relation to their economical management as large residential institutions and possesses no special interest for medical readers It is manifestly true, for example, that "boilers should be insured with a first-class boiler insurance company," and that, in relation to stores, while "economy in purchase is only one aspect of the matter economy of use is probably of greater importance still." Such observations, and several pages are occupied by them, would be as pertinent to the case of a school or college as to that of a hospital and need no special consideration from us. We may note in passing Mr. Hamilton's decided opinion that "a lady housekeeper should have the reception and distribution of all articles of food, linen, hardware, crockery, and cleansing materials," and, further, that this lady should be a "fully trained nurse, and, if possible, one who has been a ward sister." He believes that the success of such an arrangement would be due greatly to the fact that such an officer would have become aware of the circumstances in which, without any dishonest motive, excessive supplies of food or other articles were likely to be requisitioned; and he appears also to think, if we read between the lines, that a lady of the suggested qualifications would be less amenable than an average house steward to the possible blandishments of contractors and tradesfolk. There are probably few housekeepers, with experience in the ordinary domestic catering of private life, who will not be inclined to agree with him. The subjects of special medical interest dealt with in the essays are hardly more than two in number—namely, the share in the government of a hospital which should be allotted to the medical profession and the conditions which should regulate the admission of patients. With regard to the former of these questions, it must be remembered that Mr. Hamilton's predecessor in office was a gentleman who opposed strongly the demands of the medical staff of his hospital to secure a share in its management, and who desired to keep them in what was virtually the position of servants to a board of lay governors, although this interpretation was verbally denied. The question was thoroughly debated both in the press and at meetings and the complete victory of the medical staff led to the vacancy in the secretariat which Mr. Hamilton has since filled with much credit and distinction. He may therefore be expected to advocate a system to which, in fact, he is indebted for his position; and he does so, but with the curious limitation of objecting to a scheme of promotion which might render paid medical officers in the first place members of the honorary staff and ultimately representatives of their colleagues on the board of management. They would then, he says, "become masters of other permanent officers with whom they had at one time worked as colleagues, and such a condition of affairs might easily be undesirable." He proposes as a remedy for this imaginary evil that only honorary officers of long standing should be elected to the board, apparently with the notion that they would have survived their old colleagues We cannot but regard the objection as visionary and the remedy as worse than the evil which it is designed to prevent. An element of youth is conducive to the vigour of all administration, and the promotion of colleagues to be superiors is an incident of daily occurrence in connexion with the public services of the country. The question is one with which Mr. Morris has not thought it necessary to deal and which, as far as we know, has never occasioned trouble at the London Hospital, where the staff has always furnished important elements to the board and has always been considered and consulted in relation to the introduction of changes or reforms.

With regard to the admission of patients, the views entertained by Mr. Morris appear to us to be both more enlightened and more accurate than those of Mr. Hamilton. The latter gentleman defines the "primary object" of most hospitals to be "the medical and surgical relief of necessitous persons," and scarcely appears to carry his thoughts at all beyond the limitations which this definition would impose. Mr. Morris declares that "some" hospitals (may we not say nearly all?) have a loftier aim and take a broader view. "They are not content with simply returning their patients cured or relieved. They not only attempt to cure the disease from which the patient is suffering but they wish to investigate that disease, to trace it to its cause, to discover what favours it, what destroys it. ...... It will be one of *these* hospitals which will give to the world one of these days the discovery of the cause of cancer." With this absolute divergence of view between the two writers it is not surprising that Mr. Hamilton says, "In a hospital with ideal management, no patient will be treated for mere clinical interest," and that he entirely omits such matters as clinical and pathological laboratories from his account of the legitimate sources of expenditure. Mr. Morris, on the contrary, declares that the hospitals which he puts into his higher class must have "their bacteriological laboratories, clinical laboratories, pathological laboratories, physiological laboratories, sterilising rooms, &c., and all these adjuncts to research require a large staff and expensive material." He also points out the error of regarding the work of a "cheap" hospital as equal to that of an "expensive" one because the death-rate is the same. He mentions it as "a curious fact" that the death-rate of most hospitals is about 10 per cent. of the admissions and, happily, suggests as a proper test of efficiency the condition of the other 90 per cent. five years after they have been discharged. He even goes further and points out that the hundreds of people who never have to go to a hospital at all may owe their good fortune in this respect to the work in which his hospitals of the higher class have been, and are, continually engaged. In this relation, however, neither of the two writers takes note of the value to the community of the medical school. There can be no possible question that on any given day the work of healing or of prevention accomplished by the aggregate number of practitioners who have gone out from the school of any great hospital must far exceed that which is done within the walls of the hospital itself and that, whatever may be the value of the hospital to individuals, it is the school that is of transcendent value to the community. We therefore think it a matter for regret that the narrow views of hospital utility entertained by Mr. Hamilton in his practical essay should have been stamped with approval by the judges and we must express our absolute dissent from them. On the question of the fitness of patients for admission to hospital we obtain no effective guidance from either writer, and the recently suggested remedy for admitted evils which, it is by some contended, would be furnished by an adequate supply of properly organized "pay hospitals" did not fall perhaps within the scope of the conditions by which both essayists were bound. We should have been glad to hear their views upon this element in the hospital administration of the future, because it is obviously one upon which their duties and position would enable them to throw light, and as to which Mr. Morris at least must have been almost compelled to consider the recent publications of his chairman.

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The Registrar-General's Annual Report.

On the eve of going to press we have received a copy of the annual report for 1904 of the Registrar-General of England. Although its publication is somewhat belated our experience of previous issues inclines us to welcome the present volume which a very cursory perusal leads us to believe will rank as a valuable further contribution to the literature of demography. This report embodies the results of an ably conducted inquiry into the intricate causes which in recent years have produced far-reaching changes in the constitution and environment of the English people—changes by which their general welfare has been powerfully affected either for good or for evil. The present report fully sustains the high standard of those previously issued by Sir William Dunbar. It contains, however, sundry new features and to some of these we now propose more especially to refer. In his opening remarks the Registrar-General devotes considerable care to a scrutiny of the birth-rate which in this country, as well as in most others, is known to be falling continuously. The mutual relations of the marriage- and birth-rates, and of the latter with the death rates, are discussed with remarkable fairness and skill, and so great is the importance which is attached to this subject that twenty pages at least are devoted to its consideration. Within the space at our disposal we can do no more than indicate briefly the more important conclusions arrived at in this report. We wish, however, that its circulation could by some means be widely extended or, better still, that certain portions of it could be reproduced in a less compendious form, so that the subjects treated of might come within reach of the general reader who for the most part eschews everything of the nature of a Blue-book. In this and in other European countries variations in the marriage-rate are known to correspond to variations in economic conditions of highly complex character which cannot be considered here. The method hitherto adopted of registering variations in the rate of marriage is by stating the ratio of persons married to the population at all ages. But a more accurate result can be obtained by calculating the marriages on the unmarried and widowed portion of the population above the age of 15 years, thus dealing with that section of the people among whom alone marriages take place. Reckoned in this way the English marriage-rate has decreased progressively throughout the last 35 years, the total fall within that period being equivalent to 19 per cent. Surrey, Middlesex, and Essex are the only English counties in which the marriage-rates have increased at all. In London there has been a decrease of 21 per cent. In 14, mainly agricultural, counties the rate has fallen by from 2 to 9 per cent., whilst in the remaining counties the decrease has ranged from 10 to as much as 29 per cent. An interesting table appears in the report showing that, relatively to the total population, the marriage-rates in seven European countries averaged from 1 to 23 per cent. above the rates of England and Wales, whilst in eight other European countries the rates ranged from 1 to 37 per cent. below the English rate. Within the last 35 years the rate of births in this country, calculated on the married female population aged from 15 to 45 years, has decreased by 22 per cent. Disregarding any part of this decrease which may be due to increase of the mean age at marriage, it would appear that the fertility of married women has decreased by about one-fifth and this decrease is the main cause of the fall in the birth-rate. If the fertility of married women had been identical in 1870-72 and 1904 the legitimate births in the latter year would have numbered 247,285 more than those actually recorded. Broadly speaking, it appears that of the total decrease of the birth-rate since 1870 approximately 70 per cent. may be put down to decreased fertility of married women, about 10 per cent. to the decrease of illegitimacy, and the remaining 20 per cent. to the decrease in the proportion of married women at conceptive ages.

With respect to the waning fertility of married women, the Registrar-General draws attention to the fact that in the year 1904 "the falling birth-rate reached the lowest ebb on record in this country." He further shows that although the fertility of women is higher in the country than in the town districts, nevertheless the birth-rate, based on the number of women living at conceptive ages—i.e., from 15 to 45 years—is falling more rapidly in the former than in the latter districts owing, no doubt, to the continued migration of young women to the towns. In the United Kingdom, as well as in the colonies and in most foreign countries, the birth-rate has shown in recent years a tendency to decline, the only exceptions being Russia and Ceylon, in both of which countries the system of registration seems to be defective. Taking as a criterion the average English birth-rates in the latest decennium, it appears than in no fewer than 12 European countries the birth-rates were above the English average by from 2 to 66 per cent., whilst in four only of the European countries were the birth-rates below that of England. It is worthy of note that the recorded birth-rate of France is below that of England by not less than 25 per cent. and that of Ireland below it by 21 per cent. In France the birth-rate has, with slight fluctuations, steadily fallen from 26·7 per 1000 of the population in the year 1872 to 20·9 in 1904. For the great disparities in the birth-rates in the several countries it is difficult to account, although they would probably admit of explanation if allowance could be made for differences in the age and sex constitution of the populations, especially with regard to the proportion of women of conceptive ages. At present, however, this correction is impracticable. For example, if the birth-rates of England and Ireland calculated in the usual way be compared the Irish birth-rate will appear considerably lower than that of England, whereas if the rates are measured by the proportion of legitimate births to the number of married women aged from 15 to 45 years the Irish rate is shown to be considerably the greater. From Sir WILLIAM DUNBAR'S remarks we gather that whilst in his judgment it would be advantageous that the English birth registers should be improved upon the lines adopted by those countries that are more advanced than our own in matters statistical and that they should include additional particulars as regards the age of parents and the number of children born, nevertheless it would be impracticable to adopt for this country the foreign system, say of France, unless our present registration law were entirely recast. Therefore he thinks that it would be unwise at present to disturb the existing system of birth registration in England but considers that a well-devised system of early notification of births—legalised and worked in conjunction with the present registration system on the one hand and with sanitary administration on the other—might prove practicable and useful.

The law of interdependence is recognised by statisticians as applying to the ratios of birth and death in a population. And respecting this the Registrar-General emphasises some elementary facts which are as yet but imperfectly apprehended. He points out that the community is made up of groups of persons who are subject to widely differing rates of mortality. Thus, the mortality of infants in their first year of life is nearly ten times as great as that of persons at all ages, in the second year of life it is about three times, and in the third year it nearly approaches that standard. At ages above three years the mortality falls below the general rate and rapidly decreases until between ten and 15 years it scarcely exceeds one-tenth part of that rate. The mortality then rises, slowly at first and then rapidly, until the fifty-fifth year of age, and then the rise is rapid up to the highest ages. From this it follows that an increase in the proportion of children under three years of age, or of persons above 50 years of age in a community must involve a rise in the general death-rate, and this irrespectively of other conditions of environment. The converse of this is obviously true also. The first result of a decreased birth-rate will be a fall in the death-rate. After three years, however, this fall will receive a check, because of a falling off in the proportion of children with low death-rates. Whatever may be the cause of the increasing decline in the birth-rate there is no doubt that very much may be done to stay the terrible waste of life which the report shows to be still going on in our midst. "This," says the Registrar-General, "should be regarded as one of the master keys of the situation." Again, he remarks, "When it is realised that children who have not reached the fifth anniversary of their birth contribute nearly one-third part to the death roll at all ages, although they form only one-ninth part of the total population, the necessity becomes urgent for a careful consideration of the causes that regulate life and death in this important section of the community." The causes at work in producing what the Registrar-General properly designates 'the enormous death roll due to infant mortality" are fully dealt with in another section of the present report, to which we propose to refer on a future occasion. In his final remarks Sir WILLIAM DUNBAR expresses his personal indebtedness to members of the medical profession throughout the country for the willing and valuable assistance which they have rendered to Dr. TATHAM and himself in their endeavours to record accurate vital statistics and to draw from them legitimate deductions.

The Cambridge Water-supply and Fulbourn Asylum.

THE water-supply of Cambridge is obtained by pumping from two sets of wells to the east of the town, near Cherry Hinton and Fulbourn respectively. At Cherry Hinton part of the water thus obtained is derived from the lower greensand, a stratum which is covered by about 125 feet of impervious gault clay and is effectually guarded from any risk of surface pollution. The rest of the Cherry Hinton supply, however, and practically the whole of the Fulbourn well water are derived from a large area of chalk north of the Gog Magog Hills. The surface of this area is covered only by a few feet of top soil; the chalk in question is a thick stratum of "lower chalk"—compact in its character, traversed by numerous and extensive fissures, and containing bands of stone and clay, which cause water to be held up locally. Some three years ago the Local Government Board drew attention to the possibility of risk to the Cambridge wells as a result of the irrigation of untreated sewage from the Fulbourn Asylum over the surface of land situated on the chalk area from which the Cambridge wells apparently drew their supply. In consequence, representations on the matter were made by the Commissioners of Lunacy to the visiting committee of the asylum. The latter authority, however, did not admit that danger arose, the commissioners were not in a legal position to exert effective pressure in the matter, and the subject dropped. Fortunately, evidence that pollution of the Cambridge supply in this way, if it occurs, has produced water-borne disease in Cambridge has been absent and it may be noted that numerous clinical and biological tests applied to the waterworks company's water at Cambridge have hitherto given no occasion for suspicion as to the character of the water. The question at issue, however, has now been placed on a different footing in consequence of detailed inquiries and experiments conducted by Dr. S. MONCKTON COPEMAN for the Local Government Board, from which we are bound to conclude that a definite risk exists which it would be unwise to disregard or to attempt to minimise.

Fulbourn Asylum has a population of about 615 persons. The sewage of the establishment, some 70,000 gallons daily, runs over surface channels in fields adjoining the asylum and there rapidly soaks into the ground. The upper layers of soil, as Dr. COPEMAN shows, have in all probability become thoroughly permeated and the liquid finds no difficulty in escaping along the fissured layers of the underlying chalk. A good illustration of this was found at a hole made on one of the irrigation areas, roughly six and a half feet deep and of about 450 gallons capacity. When water was run into this hole from a fire-hose the hole did not become full until over 5000 gallons had been discharged into it and this quantity would probably have been exceeded if it had not been for blocking occasioned by washing in of sewage material. At another point Dr. COPEMAN found that an old cesspool, lately taken into use in order to receive sewage from the medical superintendent's house, had an overflow into a swallow hole in the chalk which at once absorbed about 12,000 gallons discharged into it by the hose. Other opportunities of subsoil pollution arise in connexion with defective and leaky drains at the asylum. Works of re-drainage were begun in December, 1904, and have since been carried out in sections. Dr. COPEMAN and the architect of the asylum are agreed in doubting the sufficiency of the scheme for these works which has been authorised by the visiting committee, though they regard it as a decided improvement on the previous order of things. Before these works were undertaken one of the main drains was tested by blocking the outlet and pumping in water continuously at full pressure. No head of water could be obtained in the drain, the water escaping into the soil as rapidly as it was pumped in. The geological conditions in the neighbourhood of the asylum make it probable that polluting matters thus reaching fissures in the lower chalk would be carried to a large basin of underground water held up by comparatively impervious marl at the base of the chalk which in turn rests upon the impervious gault clay. There are various natural overflows to this basin in the form of springs at Nine Wells, at Fulbourn, and elsewhere along the edge of the basin, while the same mass of water is drawn upon by the Fulbourn wells of the Cambridge Water Company, about three-quarters of a mile from the asylum, and by the asylum well itself. The enormous volume of water concerned naturally suggests the question whether access of even a considerable quantity of polluting matter from the asylum can, after all, be regarded as of much consequence and whether, notwithstanding the known ability of particulate matters to travel long distances through fissured strata, the asylum sewage need be considered from a practical point of view as a material risk to the Cambridge supply. Dr. COPEMAN has furnished answers to these questions by two interesting sets of experiments. On July 20th he discharged into a pit on the asylum irrigation area a solution containing 500 grammes each of fluorescin and sodium hydrate, and followed this up by a flush of water from the fire hydrant Numerous samples were taken at frequent intervals from observation stations established at different springs in the neighbourhood, at the asylum well, and at the Cambridge waterworks well at Fulbourn. On the following day distinct fluorescence was observed at "stations Nos. 4 and 5," the latter being a ditch of spring water some two-thirds of a mile north-east of the asylum, while later there appears to have been evidence of fluorescence in the water of the asylum baths. The second series of experiments was made with a larger quantity of fluorescin, five pounds of which were discharged at the same spot on Oct. 18th. At different intervals between Oct. 18th and 27th fluorescence was detected at no fewer than seven widely separated stations. The asylum well was affected four days after the fluorescin was put in and the Cambridge waterworks well at Fulbourn five days later. Dr. COPEMAN is careful not to claim that carriage of bacteria would necessarily correspond with carriage of a dissolved substance but there is no mistaking the significance of the experiment.

It is probable, moreover, that Dr. COPEMAN'S inquiries furnish a key to a puzzling incidence of enteric fever on the inhabitants of Fulbourn Asylum during 1905. After a series of somewhat anomalous cases in March the patients and the staff continued to be attacked by enteric fever week after week during April, June, and July. The total of attacks by this disease during this period was 68 and 16 deaths occurred. Local inquiry was made on behalf of the visiting committee by Dr. B. ANNINGSON and Professor G. SIMS WOODHEAD who issued a report on the subject dated July 25th. This report drew attention to opportunities of infection from person to person, particularly in connexion with the later cases, and also to possible contamination of the milk-supply as the cause of the initial cases. There were, however, many gaps in the evidence tending to implicate milk as the cause of the outbreak and in view of the experimental data since obtained it would seem at least likely that the continuance of the outbreak was due to typhoid matter escaping from the asylum drains or from the asylum sewage irrigation areas into fissures in the chalk and thence being drawn into the asylum well. It is instructive to note in this connexion that part of the work of taking up and relaying the drains of the asylum, to which reference has been made above, had been begun shortly before the commencement of the outbreak. In view of the facts brought out by Dr. COPEMAN'S investigation and of the new considerations regarding the origin of the outbreak of enteric fever in Fulbourn Asylum, to which his report gives rise, new and stringent precautions in connexion with the Cambridge waterworks must be recognised as a matter of necessity. *Means should be found to secure that the* requisite steps are at once taken by the visiting committee of the asylum, the Waterworks Company, and others concerned.

Annotations.

"Ne quid nimis."

THE PHYSICAL STATE OF SCHOOL CHILDREN THE QUESTION OF MEDICAL INSPECTION.

IT will be remembered that a deputation was recently received by Mr. Birrell, the Minister of Education, consisting of delegates from the National League for Physical Education and Improvement. The deputation was headed by the Bishop of Ripon, who appealed on behalf of the league for such inspection of school children as would afford a substantial basis of facts necessary for the formation of public opinion, and undoubtedly it is to public opinion that we must look for a practical method of dealing with a most difficult problem. The result of the recent General Election makes it necessary that the people of this country should trust one another much more readily than they have done. The Liberal must not regard the Conservative as a rabid reactionary, and the Conservative must not think of the Socialist as a *sans culotte* And similarly the ratepayer must not consider every payment out of the rates as spoliation, nor must those so lowly placed as to avoid direct taxation be blind to the burden that is placed upon other shoulders. We must as a nation believe that on the whole we wish each other well, and in particular in the many educational problems now under discussion is this spirit of mutual confidence sorely needed. We do not know what shape the Bill for feeding destitute children may ultimately take but it is clear that this question and the question of the feeding of school children are intimately bound up with the objects which the National League for Physical Education and Improvement has at heart. A method of universal and systematic inspection of school children, such as that which the league suggests, should include the annual record of the height, weight, and chest girth of every child, and would naturally be concerned in the feeding and also in the proper clothing of that child. At once the medical side of such inspection becomes apparent. The contention that a child who has had no breakfast is not in a fit position to be taught whereas a child who has no boots is not rendered the less receptive a pupil by his poverty is wrong, because the absence of boots may cause the presence of disease and the sick child cannot be satisfactorily taught. Medical men will see this point at once, but laymen appear to have difficulty in appreciating it. On Easter Monday there appeared in the *Times* a letter from Professor Howard Marsh, urging the oft-recommended compulsory medical inspection of schools; and undoubtedly it is medical opinion that is required upon all these matters. Professor Howard Marsh spoke of the great benefits that would accrue to the community by the early detection of the common infectious diseases, apart from which medical assistance might well be used in determining such points as the unsuitability of food or clothing. The medical man can say how far the apparently unsuitable breakfast is nutritious and how far the child is really suffering from want of food or want of adequate clothes, while he is taking steps for the prevention of infection from diseases which lay a terrible toll upon our infant population. In regard to the possible reluctance of the public to submit to compulsory medical inspection Professor Howard Marsh says:—

> What view is a parent likely to take when he has had a little personal experience, with which any day may furnish him? Suppose he has three or four children, one of whom being five years old must, according to law, be sent to school There this child catches scarlet fever, and bringing it home gives it to the rest. One dies and two are seriously damaged Further, this parent learns that many of his neighbours' families have also been attacked and that there have been several fatal cases Will not anyone in such circumstances, if he is possessed of ordinary intelligence, hold that as he is compelled by law to send his child to school every possible care ought to be taken to exclude infection? In other words, will he not demand rather than resent inspection?

Professor Marsh would answer his question in the affirmative, and we do the same. Public opinion needs much education in respect of medical service, and the measure of the spread of infectious disease which is definitely due to compulsory school attendance is somewhat under dispute. It is difficult also to persuade the public that medical men are more useful for the prevention of disease than for the cure of disease, yet it is to this end that all scientific efforts are being directed But we medical men must hope and believe that the public will learn to view medical service in a more enlightened way, while we have a right to ask that the public should credit us with having the general welfare at heart and should resent the frequent attacks made upon the probity of the medical profession by ignorant agitators, by cranks, by quacks, and by unscrupulous journalism. Any support given by the medical profession to a movement for the compulsory medical inspection of school children will inevitably be regarded as purely selfish by persons who do not know, or do not think, or are incapable of imagining any motive save self-interest. But we may hope that the public, as a whole, will see, firstly, that such a course would tend to a vast improvement in our national vital statistics; and, secondly, that the prevention and elimination of disease is hardly a self-interested programme for a profession primarily, at any rate as yet, designed for the cure of disease and relying for its income upon its therapeutic rather than its preventive efforts.

THE HYGIENE OF THE LONDON STREETS AND MOTOR TRAFFIC.

IN an annotation in THE LANCET of July 22nd, 1905, p. 233, under the above heading we pointed out that with the introduction of motor traffic in the streets the old pollution—that of the excreta and emanations of horses—would sooner or later give way to the new pollution, the products of perfect and imperfect combustion of the petrol of the motor. Our anticipation has been speedily realised. The new pollution has become unpleasantly evident in those thoroughfares which are now crowded with motor omnibuses. At times the trail of motor omnibuses is nauseating with smoke and petrol fumes. In a letter printed in the *Times* on Wednesday last Mr. Sidney Colvin enters a vigorous protest against this intolerable nuisance—a protest which is endorsed in strong terms in a leading article in the same journal. We earnestly hope that the matter will not be allowed to rest and that a remedy for this intolerable state of things will be imposed on all the owners of vehicles which create such a sickening and completely unwarranted offence. As the *Times* says, "the stink is already chronic and almost universal," and so also we may add is the distracting noise which is made by so many of the motor omnibuses. We believe, however, that the Commissioner of Police for the Metropolis has issued a notice to proprietors of motor vehicles, which requires, amongst other things, that no undue noise or vibration should be caused by the machinery of the motor. No motor vehicles, in our opinion, should be allowed to use the streets until they are proved to do their work without smoke and smell and with the least possible noise. There can be little doubt that motor engineers would speedily find a remedy if only such a regulation were put into force. Meanwhile it is satisfactory to learn that electric motor omnibuses, which are inoffensive as regards both smell and noise, have been run with success.

ANTHRACOSIS OF THE LIVER.

ANTHRACOSIS of the liver, or pigmentation by particles of carbon similar to those found in the lungs and bronchial glands of dwellers in towns, is of sufficient rarity to warrant notice, especially as its occurrence offers a pathological problem of some interest for discussion. A few cases are on record, one of the most interesting being that described by Welch in which there was marked increase of the connective tissue wherever the pigment was found. For this reason Welch gave the name of cirrhosis hepatis anthracotica to the condition. The cirrhosis in this case was, however, probably due to some concomitant toxic substance or irritant other than the carbon particles themselves, since in most cases of anthracosis this overgrowth of connective tissue is wanting. Dr. H. R. Alburger records a case in the Proceedings of the Pathological Society of Philadelphia for 1905, p. 137, with a careful description of the condition and a discussion of its pathogenesis. The patient was a woman, aged 55 years, who was admitted to the Philadelphia Hospital for inoperable carcinoma of the uterus, a diagnosis confirmed by the necropsy, at which the growth was found to have extended to the uterine appendages and the retroperitoneal lymphatics. The liver, which weighed 1400 grammes, extended four fingers' breadth below the costal margin owing to prolongation and flattening of the right lobe from tight lacing. There was a shallow transverse groove across this prolongation with a local thickening of Glisson's capsule. On section the liver presented a red surface with indistinct markings. On microscopical examination the interlobular tissue was found to be thickened and the thickening proved to be due to connective tissue of young growing type. In the new tissue of this character around the blood-vessels there were accumulations of black carbon granules of irregular size and shape which were identical in every particular with those usually found in the lungs and bronchial glands. With high magnification the distribution of the pigment was noticed to be much more general than was apparent under the lower powers; it was found in all parts of the lobule, even about the central vein, and also within the protoplasm of the endothelial cells of the capillary walls. A marked excess of polymorphonuclear leucocytes was also noticed both in the interlobular connective tissue, where most of the carbon was found, and also in the intralobular capillaries generally. The conditions observed within the thorax were extensive pleural adhesions, with old calcareous nodules in both lungs and some recent caseous tuberculous lesions. Unfortunately no note was made of the condition of the bronchial lymphatic glands but there was a moderate amount of anthracosis of the lungs. The other lesions found were chronic interstitial nephritis with severe amyloid change. The spleen was also waxy and showed a small amount of carbon pigment about some of the larger vessels. Dr. Alburger, in his discussion of the channel by which the carbon particles reach the liver, points out that under normal conditions the bronchial glands act as completely effective filters but quotes Weigert's observations as showing that when destructive processes occur in them or they are involved in inflammatory adhesions the conditions are favourable for the escape of the pigment contained in them into the general circulation. On this explanation it might be expected that the pigment would be deposited in various organs; this proves to be the case not infrequently in the spleen, more rarely in the liver, and very exceptionally in the kidneys. A second channel which has been suggested as a possible one from the lungs to the liver is by the lymphatics, but the number of lymphatic glands between these organs renders it highly improbable that any pigment would escape. The portal circulation has also been suggested on the supposition that particles of carbon might have been swallowed, but in this case the particles of pigment would be more likely to remain in the intestinal wall or to be carried to the mesenteric lymph glands. The suggestion offered by Weigert and adopted by Dr. Alburger seems much more plausible. Considering the frequency of disease of the bronchial glands it is highly probable that pigmentation of other organs would be found to be more common if systematic microscopical examination were carried out in all cases, since it is exceptional for such a degree of anthracosis to be present as to be visible macroscopically.

THE "HARDENING" EFFECTS OF COLD WATER.

THE "hardening" effects of cold water ablution are not so universally admitted in England now as they were some few years back when the *cold tub* on getting out of bed in the morning was taken as a matter of course by all, young or old, who aspired to health as well as to cleanliness. In Germany, however, cold affusion is apparently still recognised as a prophylactic against many of the ills that human flesh is heir to, especially in winter. According to an article by Regimentsarzt Fischer in *Der Militaerarzt*, No. 16 of 1905, affections of the respiratory organs, of the digestive tube, of the articulations, and of the muscles, all of which, provoked by chills, are very prevalent amongst German soldiers, in spite of the precautionary measures that are sedulously inculcated, can be minimised or even entirely warded off by the judicious employment of cold water. It is well known, he says, that the impression produced upon the body by the sudden application of cold water affusion determines a passing excitation of the vaso-constrictors which is speedily followed by a paralytic phase wherein the blood tends to flow towards the surface. To the initial sensation of cold there succeeds a sensation of heat; this is what is known as reaction. The colder the water the more intense the reaction. The habit of taking a daily plunge into cold water strengthens the vascular functions of the skin and renders it better able to protect the system against chills. In order to establish this hardening process amongst soldiers Regimentsarzt Fischer proposes to instal in every barrack room a caisson of zinc or wood fitted with a discharge pipe. The water could be procured from the general supply when available or else from reservoirs attached to the wall at a suitable height and should be distributed through a perforated nozzle. Every soldier on rising in the morning would proceed to apply a douche to his entire body (with the exception of his head) during three or four seconds and then, having dried himself superficially, would return to his bed and remain there well wrapped up until reaction was established. As a rule this should not take longer than a minute or two, so the duration of the entire process would not encroach inordinately upon the time usually devoted by a soldier to the elaboration of his toilet. An ordinary English shower-bath would apparently answer Regimentsarzt Fischer's requirements d if it were deemed essential that the soldiers' heads ould not be subjected to the hardening process they uld wear waterproof skull caps as some ladies do when a-bathing.

THE PSYCHOLOGY OF THE BARRACKS.[1]

AN Italian contributor writes:—"'*La Caserma, voilà nnemi!*' exclaims many a continental reformer, who thus oceeds to congratulate the Anglo-Saxon civilisation on the munity enjoyed by the young Briton and American from mpulsory military service. Nor is the exclamation con-ned to the 'reformer,' more or less 'professional.' On e testimony of an English lady in Rome whose *salon* was r years frequented by the foreigner of every nationality the e theme that, more than any other, emerged above the um of polyglot conversation was the freedom reserved for er compatriots of making the career of arms a matter of dividual choice. Not that among the said compatriots ere was not an occasional interlocutor who would dwell on e redeeming points of conscription and even venture on the emark that it might one day commend itself to the Anglo-axon world. He was invariably met by the Italian or the renchman, by the German or the Austrian with the assurance hat he had but to go through their experience to coincide ith their view or to modify his own Certainly of late years he continental press, French, Italian, and German, has eemed with publications disclosing the seamy side of arrison life—its troubles, its trials, and worse, inseparable rom enforced subjection to the levelling roller of 'dis-ipline' in uncongenial, often eminently undesirable, con-itions, moral and physical. True, these publications are ostly in the form of fiction but all bear the impress of amiliarity at first-hand with fact, while embodying actual xperiences imprinted on the memory in characters not to e effaced. The latest addition to the series is of Italian uthorship and though its tone and its tenor are those of the apologia' it supplies us in its very enumeration of the vils that it seeks to minimise with an all too intelligible ommentary on that revolt against the system which, long urrowing beneath the surface, cropped up last autumn hrough the Alta Italia in open refusal to answer the call to arms.' The September and October of 1905 will ong be memorable for the 'cospirazione nell' esercito' which led to numerous arrests and to the subsequent impounding of documents which showed that the 'conspiracy' was international in origin and that the shock of insubordination felt but for a moment in the French garrisons had a yet more pronounced ricochet in those of Italy. Captain Sangiacomo, whose brightly written and thoroughly well-informed *opuscule* seems to have been designed as a corrective to the 'anti-militarist' leaflets steadily, if stealthily, distributed among Italian conscripts, draws with much power a reassuring picture of his country's army. He points with undeniable force to its educative influence, to the salutary effects wrought on the backward proletariat of the towns and the still more backward youth of the rural districts. He is eloquent on the transformation of the city arab and the rural bumpkin, unlettered, untidy, in every sense uncivilised, into the recruit whom a few months of garrison life have taught to read and to write, to be cleanly in his habits, to become proficient in this or that *métier*, so as to rejoin society an efficient and a law-abiding member, not without the much desiderated 'sense of citizenship' Equally eloquent and not less convincing is he when he shows that besides being an educational institution on a national scale the army, reinforced by periodical levies, has been, and still is, a 'unifying influence,' making the Sicilian after a sojourn in Piedmontese barracks, or a Venetian after living in a Calabrian garrison town, more thoroughly Italian in sentiment and in sympathy than he had any chance of becoming if left within the provincial, not to say parochial, limits of his birthplace. From the Alps to Etna, Italy has undergone, thanks to her army, a process of interpenetration, moral and intellectual, of which she is now reaping the fruits, so that even in the matter of spoken dialect a Lombard regiment no longer requires an interpreter when landing in Naples or a Neapolitan when quartered in Genoa. All this, and much more, in favour of her compulsory military service may truly be claimed by Italy. But there is another side to the picture which all Captain Sangiacomo's adroit and genial special pleading cannot annul. Some features of this 'reverse view' are, no doubt, temporary—for example, the defective construction and appointments of the barracks themselves, often old monasteries, with all their insanitary conditions and gloomy 'accommodation' hastily utilised for regimental life and not yet replaced by buildings specially adapted for such a purpose. It is the permanent and far more prejudicial features of 'life in quarters'—features common to every continental army but seen at their worst in Italy—that the latest apologist of conscription cannot put out of sight. In the first place the steady withdrawal from the country to the towns of such masses of young Italians not only encourages, but actually causes, that distaste for rural life and rural labour which, a progressive evil throughout Europe, is peculiarly felt in Italy, whose chief industry is agriculture and whose impressionable youth is beyond all others responsive to the seductive stimulants of urban example. Then again, the absence of all influences or attractions antagonistic to animal indulgence is a feature of Italian barrack life, even more fatally pronounced than is that of other continental countries. Here, indeed, Captain Sangiacomo for once drops the *rôle* of apologist and draws a picture of the moral 'sink' into which the beardless conscript from the country is plunged on his transport to the city garrison which preludes an appeal to the supreme military authority for immediate countervailing measures. I cannot follow him in his enumeration of these deteriorating conditions, beginning with the low 'boozing-ken' and ending with the 'lurido angiporto dove amore e lue venerea sono sinonimi.' Suffice it to say, that the vitiated, often hopelessly septic, constitution with which the Italian conscript rejoins civilian society is a recognised cause of the enfeebled physique which he transmits to his progeny and which, as a Nemesis, explains the increasing rejections of recruits on each successive levy, for 'gracilità' and other bodily disqualifications culminating in the 'epileptoid subjects' whose admission into the ranks is the occasion (*teste* Lombroso) of the abnormal frequency of homicidal mania in the army of Italy. To begin from where I set out, in spite of its latest and not least effective apologist, conscription, as practised and experienced abroad, seems unlikely to conciliate the lasting favour of the countries in which it prevails or to lessen the envy which they undeniably entertain for that sister civilisation which has found the voluntary system of service compatible with the most perfect means of 'national defence' not only in keeping its shores inviolate but in protecting the frontiers of a 'colonial expansion' unequalled in the history of the world."

ANTHROPOLOGY AT OXFORD.

THE University of Oxford established a diploma in anthropology by statute in 1905 and courses of instruction for the same were arranged to begin in Hilary term of this year. The first annual examination will be held in the coming Trinity term. The diploma will "be granted to all persons, whether members of the University or not, who, after pursuing an approved course of study, satisfy examiners, appointed by the University, as to their proficiency in anthropology." Materials for the study of anthropology became available at the time of the acquisition in 1685 of the Tradescant collection which was for a long time the only attempt to make possible the comparative study of human handiwork. Now, however, owing to the collection of human crania established in the department of comparative anatomy by the late Professor Rolleston, the Pitt Rivers collection, and the generosity of the late Mr. C. D. Fortnum, there is ample material for the study of anthropology. Regulations and other information concerning the examination for the diploma and admission thereto may be obtained from the secretary to the committee for anthropology, Mr. J. L. Myres, M.A., Christ Church, Oxford. And here we may fitly refer to the loss which Oxford in particular and science in general has sustained by the death of Professor W. F. R. Weldon, F.R.S., the Linacre professor of comparative anatomy, who died suddenly in London on Good Friday, April 13th. He was an *ex-officio* member of the committee on anthropology and although he ended his days as holder of a post in the University of Oxford, was a Cambridge man, obtaining a Fellowship at St. John's College of that University in 1884. Thence he went to University College, London, as professor of comparative anatomy and zoology and in 1899 he resigned this chair to take up the one at Oxford which he held till his death. We are glad that Oxford has decided to institute an examination in anthropology and venture strongly to recommend a study of this subject to all who have to do officially with races of an alien culture—such as colonial administrators, missionaries, and Government explorers. Much heart-burning, loss of life, and even political complications might have been avoided if explorers and missionaries had not in former years, if not so much nowadays, gone out to alien lands with a fixed idea that "manners they have none and their customs are beastly."

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[1] Psichologia della Caserma. Per il Capitano Olivieri Sangiacomo Roma Torino: Roux e Viarengo, 1 vol., 1906, 3 fr. 50 centimes.

THE SOUTHBOROUGH ISOLATION HOSPITAL.

The vaunted supremacy of English sanitary administration receives at times such shocks that we are inclined to raise the question whether the reputation which we enjoy is really merited, and the story of the action, or rather culpable inaction, of the Southborough urban district council with reference to its fever hospital seems to suggest that in certain matters we are still in the eighteenth century. Through the courtesy of the editor of the *Tunbridge Wells Advertiser* we have received a detailed account of a case which was recently brought before his honour Judge Emden at the Tunbridge Wells county court in which the Southborough urban district council sought to recover from the parents of two patients who had been inmates of its fever hospital the cost of such patients' maintenance, the payment being contested in order to make public certain allegations which, if true, must leave the district council in a most uncomfortable position with those who have reposed trust in it. According to the evidence, this hospital, which contains 12 beds, was to a large extent as a matter of practice, whatever may be the nominal position, under the general supervision of the sanitary inspector, who has, it may be added, no qualification in sanitary matters but who, according to his own showing, is responsible for the payment of a proper and efficient staff. At the hospital there reside a man and his wife, the latter acting as nurse and caretaker and being also responsible for the washing and other work in connexion with the institution. Under her there is a kitchen-maid. It was in these circumstances that the two patients referred to, an adult brother and sister, were admitted as private patients at a charge of one guinea per week each and under the care of the medical attendant to the hospital. So far as the balance of evidence goes, the female patient, although seriously ill, was not fed in a proper or regular fashion, especially at night, and the attendant caretaker, although she had acted as an assistant nurse in charge of a ward at a provincial hospital, did not appear to possess the necessary knowledge for dealing with the case in a satisfactory fashion. Amongst other things, she allowed the patient to get up from her bed when she was unfitted to do so. At night the caretaker went to bed in the ward in which was the patient, giving the latter a stick wherewith to wake her if necessary. On the patient feeling faint there was difficulty in waking the nurse and even then, there being nothing in the shape of stimulants in the hospital, water was the only restorative available! "There was no stimulant in the hospital by the regulations of the council." After this the kitchen-maid was compelled to sit up with the patient for two nights, although she (the kitchen-maid) was altogether unfitted for such a responsible task. It was only after the lapse of four days that a trained nurse was procured from Dover, but her advent seems to have led to so much unpleasantness that pressure is alleged to have been put upon her to prevent her from giving evidence before the court, a circumstance which elicited from the judge some very uncomplimentary criticism. We must confess that the facts brought out during this action manifest a very unsatisfactory condition of affairs at the Southborough hospital—a general muddle is perhaps the fairest comment—and we are by no means surprised to find that the action was dismissed, with costs on the higher scale. We are fully conscious of the difficulty of administering small isolation hospitals but there is no excuse for leaving patients seriously ill in charge of kitchen-maids or for devolving the practical supervision of the institution upon a sanitary inspector, whether qualified or not qualified. Nor can much check on the administration of the hospital be expected from the visit of a district councillor who does not regard it as necessary to enter the hospital. The medical attendant to the hospital is to be congratulated on his evidence, which was eminently fair, notwithstanding the fact that it did not redound to the credit of the Southborough district council.

THE INDUCTION OF LABOUR BY HYPNOTISM.

At a meeting of the Society of Hypnology and Psychology in Paris Dr. Bonjour read some very interesting observations, which will be found in the letter from our Paris correspondent on p. 1143, on the induction of labour by means of hypnotic suggestion. In a certain number of cases under his care he found it possible, by placing the patient in a hypnotised state, to insure the occurrence of labour on a certain date. He had found that this could be done provided that the day was not earlier than eight days before that which had been determined by calculation and examination of the patient as the expected day of the confinement. He further claimed that even if the physician could not be sure of determining the onset of labour on a definite date, yet he could insure that it should commence on a given night, so that the period of dilatation and expulsion would take place the following day. It is difficult to believe that even under the influence of hypnotic suggestion the onset of labour with any certainty can be determined for a certain time or date. We need hardly point out what a gain the possession of such a power would be to the busy medical man. One of the main drawbacks of a large maternity practice is the fact that the exact time at which a given confinement will commence can never be settled with anything approaching accuracy. No doubt mental emotion plays some part in causing the onset of labour, but we are quite ignorant as to what is the part played by the patient's will in this matter. We are still in the dark [illegible] the exact [illegible]f the occurrence of bour at a given time, but in view of the importance at must be attributed to the occurrence of complete aturity of the fœtus and placenta when labour does cur it is difficult to imagine that mere hypnotic influ-ce could bring it on in a case in which it was t very imminent. Indeed, Dr. Bonjour admits that his ethod of suggestion fails if it is attempted more than eight ys before the expected date of the confinement. The use hypnotic suggestion is no new matter in connexion with stetric medicine. A large number of cases have now been aced on record in which hypnotism has been employed to nul or, at any rate, to diminish the pains of labour, and many instances with surprisingly good effect. In one ries of 28 cases published by a Russian observer in no less an 20 as the result of the hypnotic suggestion the labours ok place painlessly, in three the first stage was painless, ile five of the patients could not be hypnotised. In ten stances the hypnotic *séances* were commenced one and a lf months before full term, and in the remaining 18 mediately before the onset of the pains. Sugges-on has been used not only with success in the treatment of the pains of labour but also as a means of eating some of the neuroses of pregnancy. Thus it s proved often successful in cases of nervous vomiting. o bad results have been observed either in the mother the child and it has been found in cases where it is ifficult to induce the hypnotic state on account of the resence of uterine pains the administration of a little loroform is frequently followed by success. The occur-nce of painless, or almost painless, labour during the ypnotic state is a well-authenticated fact and has been served by many trustworthy observers and as a therapeutic easure has undoubtedly proved of considerable value in the ands of many practitioners. We shall await with interest rther evidence as to the possibility of determining the set of labour by the same means but we fear, even if it be roved possible, that the number of cases in which it can be ractised with any degree of certainty will be very small deed.

AN INSULT TO THE PROFESSION.

It has happened more than once in the history of human chievement that the work of some great artist has not lly come home to the minds of his contemporaries and has nly been completely appreciated, even by a later genera-ion, when light has been thrown upon it by the mind of ome supremely gifted commentator. In the twentieth entury things move more quickly than of yore and good ortune brings us the commentator within a comparatively hort period after the work of the artist has been com-leted. We are moved to these reflections by the perusal f a speech recently delivered in the House of Commons by Mr. Henry Vivian, M.P., who at the last election attained he eminence of "Labour Member" for Birkenhead and who eels himself to be acquainted intimately with the views and houghts of the medical profession. His discourse has eminded us of the great painting by Mr. Fildes, R.A., which few years ago charmed all spectators at the exhibition and hich since, in the form of an engraving, has become an rnament of many homes. The picture represented a edical man, apparently a hard-worked country doctor, ending in profound anxiety over the bed of a sick child, mid the humble surroundings of a cottage. To the uperficial view of the ordinary spectator the strong and ugged, though kindly, face was expressive of deep solicitude or the recovery of the little patient and of profound ympathy for the distress of which the illness was the ause, all of which was sufficiently indicated in the bearing nd positions of the parents. The ordinary spectator was quite wrong. Mr. Vivian knows better and has told Parliament all about it. The question which really tro the thoughtful doctor in these situations is to determ whether it would be more profitable to him to cure th child and to take his chance of eventual payment from the father, or to withhold his hand and thus to secure the secret commission which he would receive from the coffin maker. We had never before thought of this aspect of the question, and we recognise at a glance the illuminating power of genius—the genius of misrepresentation.

HEIGHT AND BODY-WEIGHT.

According to the formula propounded by Paul Broca a grown man's weight in kilogrammes should correspond with the number of centimetres in his stature above one metre. In order to test the approximate accuracy of this statement Generalarzt Villaret of the German army has collated data from the records of 42,563 soldiers who had all been accepted as physically fit for the service. As far as regards little men—that is, men whose height varied between 1·54 and 1·59 metres—the formula of Broca was confirmed, but with medium-sized men—that is, men whose height varied between 1·60 and 1·74 metres—the body-weight was under the standard, the divergence increasing with almost mathematical regularity from below upwards. In the case of tall men—that is, men above 1·74 metres (5 feet 7 inches)—the divergence was still greater and here, too, it increased regularly in accordance with the individual's height. Generally speaking, Generalarzt Villaret found that a recruit's weight after a few months' service was largely influenced by his calling before enlistment. Men coming from a sedentary occupation, such as clerks, tailors, saddlers, and so on, put on weight very quickly, whereas those who had had opportunities for over-feeding, such as confectioners, bakers, butchers, and brewers, lost it with corresponding rapidity. Recruits recovering from serious illnesses, or who had had to work under defective sanitary conditions, might safely be accepted when below the standard, for their weight was certain to increase, and the same rule applied to youths brought up in poverty who had never in their lives had as much food as they could eat.

THE VERMIFORM APPENDIX.

In a memoir published several years ago Dr. J. A. Berry gave a detailed account of the histology of the true cæcal apex or the vermiform appendix in animals from pisces to anthropoids. In a paper read at the first International Federation Congress of Anatomy held at Geneva in August, 1905, and reproduced in the *Journal of Anatomy and Physiology*, vol. xl., part 3, p. 247, Dr. Berry, in conjunction with Dr. L. A. H. Lack, gives the results of his later researches in man, influenced in their direction by the important essay of Mr. C. B. Lockwood on Appendicitis, its Pathology and Surgery. Dr. Berry having in his first paper shown that lymphoid tissue is the characteristic feature of the appendix, in his present communication, aided by Dr. Lack, gives the results of his investigations as to the age at which lymphoid tissue first appears in the human appendix, for it does not exist in the newly born infant; next the age at which it tends, if at all, to disappear; and, lastly, discusses the question whether the obliteration of the human appendix is a physiological or a pathological process. In regard to the first point, whilst at birth there is practically no lymphoid tissue and lymph follicles are absent, within 14 days two well-marked lymph follicles have made their appearance and lymphoid tissue is scattered profusely throughout the whole of the mucosa. At six weeks there are from eight to 12 lymph follicles, and the whole of the mucosa and submucosa, as is clearly shown in the reproduction of a photograph, is with lymphoid tissue. At 32 weeks the r of man is to all appearances an actively There are, then, to be met with in the e section from ten to 12 well-marked licles and about 160 tubular glands. drawn in regard to the first point is, whilst there is no lymphoid tissue in the cæcal apex of the lower animals or in the appendix of man at the time of birth the portion of gut under consideration has become within a period of from one to six weeks an actively functional lymph gland. In regard to the second point the writers entertain no doubt that the lymphoid tissue does tend to disappear from the human appendix, for the number of lymph follicles visible in transverse sections of appendices will be found to become less numerous with advancing age, so that whilst six or seven follicles may be found in a transverse section of an appendix up to the age of 40 years, at the age of 60 years and above there are only traces or a total absence of them. The lymphoid tissue, however, never totally disappears. Lastly, they consider that obliteration of the vermiform appendix is a pathological process. On these various grounds the vermiform appendix of man may be regarded as by no means a vestigial remnant or an organ in a state of retrogression but as an actively functional lymph gland. The writers consider that the passage of inert foreign bodies into the appendix is extremely rare, though the entrance of living organisms such as the trichocephalus is easily conceivable and has been several times demonstrated in cases where appendicitis was present.

ENTOPTICS.

In a communication made to the Royal Dublin Society in March of the present year Professor W. F. Barrett calls attention to the phenomena of entoptic vision or the self examination of objects within the eye. It is remarkable that the subject of entoptics appears to have dropped out of the consideration of most of the writers of recent ophthalmological manuals and treatises. The reason of this is probably to be found in the circumstance that it belongs properly to physiological optics and is therefore discarded by authors who require all the space at their command for the consideration of the defects, disorders, and diseases of the eye; yet the appearances presented by motes in the eye—muscæ volitantes—are so annoying that inquiries as to their nature and relief are constantly made by patients. In many instances a favourable prognosis may be given with assurance that they will become fainter or less numerous and will ultimately disappear, either by absorption or by rising out of the line of vision; for their apparent descent is attributable to their specific gravity being lower than the surrounding fluid. They hence ascend and their shadow on the retina being inverted they appear by the law of projection to fall. Nevertheless, they may in general be regarded as indicative of some degree of impaired nutrition of the health or of the eye and should not be disregarded by the physician as altogether unimportant. Entoptic phenomena are most easily demonstrated and examined by looking at a clear sky or a well illuminated street through a pinhole aperture in a piece of cardboard or thin metal held close to the eye. Professor Barrett points out that entoptic objects are seen inverted, the reason being that the rays of visible direction proceeding from the aperture do not cross at the nodal point of the eye, and that as the path of the projected shadow of any entoptic object corresponds to the path of the incident rays crossing at the pin aperture only the enlargement of the image is in the direct ratio of the distance of the pinhole from the pupil to its distance from the illuminated screen on which the shadow is projected. He proceeds to show how by a simple calculation the size of a musca can be determined and how it may be delineated. Professor Barrett promises that in a future communication he will describe an instrument which he has devised and which he has termed the entoptoscope by which the position and the size of floating muscæ can be determined.

THE HONOURS TO GUIDO BACCELLI.

The "plebiscito universale di ammirazione" of which on Sunday, April 8th, the head of the Roman Medical School was the object must have more than realised the intentions of its promoters. From Royalty itself to the leading representatives of every interest, professional and lay, there was but one sentiment that animated the distinguished auditory that thronged the Capitol—one of respect, esteem, and kindly "brotherhood" towards the physician, the man of letters, the citizen, and the statesman whom it had met to honour. Not for the first time has The Lancet[1] borne testimony to what Italy and the outside world owe to the clinician and pathologist who has worthily held up the torch transmitted from Baglivi to Morgagni and from Morgagni to the modern schools. We have only to-day to congratulate the "youngest of the Great Powers" on her still possessing a son so able, so accomplished, so public-spirited, so inspiring, whether in the clinical lecture room or in the legislative chamber—possessing him, moreover, in the maturity and the unimpaired vigour of his many-sided energy. The crowning work of his life—the foundation of the "Policlinico"—was the subject of special eulogy on the occasion of April 8th and we may now repeat what we expressed when that great institution was planned—to wit, our sense of the truly catholic spirit in which its founder drew upon the experience of the scientific world for its equipment, among the evidences of which was his selection of the English Lister as the counterpart of the Italian Morgagni, to typify, by the sculptor's art, the genius of surgery side by side with that of medicine.

> "Dum Tibris Etruscum in mare defluat
> Flavente lapsu, stet Polyclinicum
> Fulgens, tributurum salutem
> *Italiae dominaeque Romae.*"

May it continue to stand not only for the humane science it cultivates and reduces to practice but as testimony to the "fratellanza," the brotherhood, that knows no distinctions of race or creed, responsive only to the watchword which makes "*all men's good*, each man's rule."

ANGINAL ATTACKS IN CONGENITAL HEART DISEASE.

It is frequently observed that children with congenital heart disease suffer from convulsions of a greater or less degree of severity but the occurrence of anginal attacks analogous to those of adults is extremely rare. Dr. Norbert Swoboda showed a case of this kind before the pediatric section of the Gesellschaft für innere Medicin und Kinderheilkunde in Vienna on March 1st, which is recorded in the *Wiener Medicinische Wochenschrift*. The patient was an infant, aged 18 months, of weakly, ill-developed appearance. There were marked cyanosis and persistent dyspnœa, the fingers were clubbed, and the extremities were cold and blue. There was marked pulsation in the præcordial region but no thrill. On auscultation a loud systolic murmur was audible over the whole cardiac region, while the pulmonary second sound was accentuated. On examination by the Roentgen rays the cardiac shadow was distinctly enlarged both to the right and the left. The general condition of the child until the age of 14 months was fairly satisfactory, but from that time, either during or immediately preceding the act of defæcation, severe attacks of anginal character developed, lasting from one to 12 hours.

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[1] The Lancet, Jan. 6th (p. 51) and March 31st (p. 808), 1894.

ks occurred whether the motions were hard or the result of an enema but no local condition ıd to account for them. At the beginning of cks the infant would usually groan and soon ı an extreme degree of expiratory dyspnœa with stress, the eyes starting from their sockets, the oming bluish-black and cold, while eventually con- ss was sometimes lost. The attacks frequently ended niting, epistaxis, or cough. During their course the ecame small, though not accelerated, while the murmur was no longer audible. In the intervals ı the seizures the infant wa cheerful and active but eral condition was much ôpressed by them and a weakness of the left arm eveloped. A somewhat case has been recorded by Heubner in an infant ve and a half months; in th case death occurred in the attacks. Apart from th rarity of the condition voboda's case is of interest om the association of izures with the act of defæcion and also from the uent weakness of the left arm

TOAST.

BABLY modern methods of ming flour have much to ith the lack of flavour whichmarks the present-day of bread. One thing at leaswe know, and that is roller milling, as distinct fn the old method of ling wheat between stones, lea to the elimination of germ of the wheat, and the culiar nutty flavour—h is now unfortunately a atter of history—of old-fashioned loaf was due paps to the retention his germ. The public, or at events a large section it, would appear to be e stupidly ready to ifice genuine dietetic quality invour of colour—bread adays must be quite white andlk must look yellowish nd these silly criteria of an tation excellence are ly supplied. The increasingopularity of toast is omewhat interesting fact in t it possibly indicates t, after all, the public resents, nay be unconsciously, insipidity of modern bread. Toast is not only in nand on the breakfast table butoften appears now in ce of the roll or slice of bre on the dinner table o. This quite common prefer which is exhibited r toast may be because experiehas taught that well-ade toast is more digestible ı bread. It is more obable that toast is popular bee it is palatable and as an attractive flavour. In a sir way the crusty part bread is chosen by a goodny people because it ossesses a flavour analogous in a to that of toast, which s decidedly more interesting to thlate than the soft and oist portions of modern bread, fese are with difficulty ompletely masticated and insaled, being too solid in heir mass to allow o the free incration of the digestive juices. Toast place a lighter ta the digestive functions since during its peparatio so of the starch grains of the flour are rptured whileme are converted into dextrin which is asily soluble. rther, the crispness of toast necessitates its being comtely moistened in the mouth before it c be swallow As a rule, therefore, toast is thor submitted tthe action of the preliminary dig process in thenouth. It is important, however, ast should be crisall through, as otherwise t portions tend to ecome plastic and soft the intead and, like it, dicult of digestion if not like ne masticated. New read is not necessarily thorote. It only proves so in some cases, because on indi of its plasticity and oftness there is a strong ac to swallow it before it is thoroughly masticated nsalivated. If bread posessing the peculiarly ctive flavour which characterised it in the days of e milling were placed on the modern breakfast or dinner table the preference for toast would, we feel safe in saying, very sensibly diminish.

THE STATISTICS OF THE MEDICAL STUDENTS IN GERMANY.

Statistics published by the *Frankfurter Zeitung* as to the number and distribution of medical students throughout the German Universities show in a general way that the popularity of medical studies increased progressively from 1860 to 1890, since which year it has declined. During the winter session 1905–06 the total number of medical students in Germany was 6080; last summer it was 6032; during the previous year 6153. In 1885 the total was 7725; in 1890, 8986; and in 1896, 7851. These figures include foreign students, of which there are at present 895 registered in the Universities; last summer there were 751. German subjects registered as medical students numbered in 1861, 2000; in 1872, 3365; and in 1881, 4389. The proportion per 100,000 inhabitants shown by medical students of German nationality at the present date is 8·5; in 1890 it was 14, in 1881 it was 9·7, in 1872 it was 8·5, and in 1861 it was 5·6. The popularity of medical studies in the different universities is shown as follows. Since 1882 the number of medical students at Berlin, Munich, Freiburg, Heidelberg, Jena, Kiel, Giessen, and Rostock has increased 50 per cent. and at Erlangen over 25 per cent. At Greifswald it has decreased 100 per cent, at Breslau about 50 per cent, at Leipsic and Würzburg more than 25 per cent, and at Königsberg and Halle more than 20 per cent. Münster alone of German Universities has no medical faculty.

A sessional meeting of the Royal Sanitary Institute will be held at the Parkes Museum on Friday, April 27th, at 5 P M, when a discussion on the Consumptive at Home will be opened by Dr. G. A. Heron. Sir R. Douglas Powell, Dr. J. E. Squire, and Dr. F. C. Shrubsall are expected to take part in the discussion, On Saturday, April 28th, a visit will be made by members of the institute to the Mount Vernon Hospital for Consumption at Hampstead. Members will meet at the hospital at 3 P.M, and after the visit will be entertained at tea at Upper Frognal Lodge. Those wishing to attend the visit should send in their names to the secretary by Tuesday next, April 24th.

CREMATION AND SANITATION.

Under the auspices of the Royal Sanitary Institute a provincial sessional meeting was held at Leicester Town Hall on March 24th, when the subject discussed was Cremation. Colonel J. Lane Notter, R A.M.C., chairman of the council of the institute, presided.

The Chairman, in opening the proceedings, said that very decided sanitary advantages were connected with the practice of cremation and it was satisfactory to find that this method of disposing of the dead was growing in favour with all classes.

Dr C Killick Millard (medical officer of health of Leicester) read a paper on Cremation, giving at the same time various particulars relating to the crematorium of the Leicester Corporation. He said that the practice of disposing of the human body by fire was largely adopted by the ancients, and in Greece the right to be burnt was only denied to suicides, young infants, and persons struck by lightning. He then continued as follows:—

General Considerations.

Some people prefer not to face this question because they are over-concerned about the fate of the body after death and fear to suggest any alternative to old-fashioned and familiar custom. Others, again, do not face it because they feel so little concern and do not care what happens to the body. Neither of these extremes, it seems to me, is right It is true that the body after death is no more than the empty shell from which the spirit—the living and immortal soul—has fled, but the body is, nevertheless, sacred in death as well as in life, and it is surely our duty to provide for its reverent disposal by the method which, in the light of modern science and with due consideration for the interests of the living, appears to us to be the best. The human body, in common with bodies of all living things, must inevitably, sooner or later, undergo disintegration and the highly complex organic substances of which it is composed must eventually be resolved into simpler compounds, such as water and carbonic acid, which are dissipated, leaving only a small amount of mineral residue behind. There are in this country only two practicable methods of disposing of the dead—namely, by inhumation or earth burial and by cremation. I hope to be able to show that of the two the latter—cremation—is much to be preferred, as being more sanitary, more scientific, and much less repulsive to sentiment. When the movement in favour of cremation was initiated in England about 30 years ago all sorts of objections were raised against it. It was asserted that cremation would create a nuisance and would encourage crime. It was also described as heathenish, revolting, and opposed to Christian teaching. The Cremation Society of England was formed in 1874, with Sir Henry Thompson as president, and it is undoubtedly due to the enthusiasm and dogged perseverance of the society that the change in public opinion has chiefly been brought about. The crematorium at Woking, the first in this country, was erected in 1879, and was for several years the only one in England. In 1892, however, a second crematorium was opened at Manchester, and this has been quickly followed by many others in various parts of the country, until at the present time there are no less than 13. The crematorium in Leicester was opened in 1902 but only one cremation took place in that year. In the following year there were five cremations, then eight, and last year there were 15. Many of these were from neighbouring towns and almost all were of persons belonging to the upper or middle classes, this being the experience everywhere. As the fashion spreads, however, there is little doubt, I think, that the working classes will also avail themselves of it.

CREMATION ABROAD.

In several foreign countries the movement, begun about the same time as in England, is making equal progress. In Germany cremation was introduced in 1878 and is rapidly increasing; according to statistics recently published there are nine crematoriums and 86 cremation societies, with a membership of more than 22,000. The figures are remarkable inasmuch as cremation is forbidden in several of the German States. In the United States of America there are already no less than 26 crematoriums. In France there are four but the one in Paris is used to a far greater extent than the corresponding one in London. In Switzerland there are four and there are two in Sweden and one in Denmark. Other countries which possess crematoriums are Japan, Canada, and Australia, while one is also to be found at Buenos Ayres and one is being established in Bombay by educated Parsees, who object to the present method of exposing their dead on the Towers of Silence. As regards the number of cremations performed in Paris alone the total amounted to 3147 up to the end of the year 1903, and it has since been considerably increased. In the United States of America no less than 3160 took place in one year (1902). In Germany the number in one year (1903) was 1074. In Great Britain there were 604 during 1905, as compared with 566 in 1904 and 476 in 1903, whilst the total for this country since the commencement of cremation up to the end of 1905 was 5020.

COST OF CREMATION AND LEGAL FORMALITIES TO BE OBSERVED.

Cremation is not necessarily so expensive as some people think. The amount of fuel required to consume the human body completely in the latest form of apparatus is only about half a ton of coke, costing a few shillings, and against the cost of fuel there is a set-off in the land required for the grave. The interest and sinking fund on the capital outlay in building a crematorium and cost of up-keep are serious items at present, whilst the number of cremations is small, but they will diminish greatly as the practice becomes popular.

The fees for cremation at the Leicester Crematorium are £2 2s. for a resident of Leicester and £5 5s. for a non-resident. In the case of a poor person the corporation may, if it thinks fit, remit a portion or the whole of this. In addition to the cost of the actual cremation there are fees for the special medical certificates required by l At present cremation is unfairly handicapped in this resp as no fee is payable for the nominal certificate of de which is all that is required before burial. There is a gr contrast between the stringent precautions insisted up before cremation and the notoriously inadequate precautio with which the law is at present satisfied before buri Briefly, the procedure before cremation under the Act 1902 is as follows:—A statutory declaration has to be mad on a prescribed form before a justice of the peace or com missioner of oaths to the effect that there is no known cau why cremation should not take place. Two medical certi cates have to be obtained also on prescribed forms, o from the ordinary medical attendant of the deceased an the other—the confirmatory medical certificate—from medical man who is of not less than five years' standing an holds some official position specified in the regulations, suc as medical officer of health, certifying factory surge medical referee under the Workmen's Compensation Act, o physician or surgeon to a hospital. The ordinary medical certificate of cause of death has to be given and the deat registered as usual. Lastly, all certificates have to be sub mitted to the medical referee appointed by the cremat authority under the Act and no cremation can take pla until authorised by him. The medical referee has full power to decline to allow a cremation to take place without stating an reason, and in any case where he thinks it desirable he ma require that a post-mortem examination should be made. Although I think that some of the details of this procedur might be simplified with advantage, it is not really so fo midable as it sounds, and when all deaths have to be certified properly the difference in trouble between cremation an burial will be less marked.

THE COMPARATIVE ADVANTAGES OF CREMATION.

Arguments in favour of cremation as compared with inhumation may for convenience be divided into two classes—namely, those which are based (1) on sanitary grounds and (2) on sentimental grounds respectively.

1. The practice of inhumation in crowded graveyards in large towns is essentially insanitary and must be a menace to the health of the surrounding inhabitants. As regards intramural interments the revelations which came to light as the result of an inquiry made into this subject some 50 years ago smote the public with such horror that an Act of Parliament was passed prohibiting this form of interment. Of course where cemeteries are formed at a distance from the towns, out in the open country, as is the case at Leicester, the evil is greatly reduced, but the process of decay and corruption still goes on.

In considering the possible influence of a cemetery upon those living in the vicinity I am able to speak with some personal feeling, as my own residence is in close proximity to the Leicester Cemetery, a narrow strip of only 40 yards separating my garden from the cemetery fence. In this cemetery, the subsoil of which is a stiff clay, some 2000 bodies, representing, perhaps, 200 tons of human remains, are deposited every year. As regards any nuisance arising from the process of cremation I can speak from experience, as nearly 40 cremations have already taken place at the Leicester Corporation crematorium, which is only 300 yards from my house. I have never noticed the slightest nuisance, nor, indeed, from the nature of the apparatus, is any nuisance possible, even if it took place in a crowded neighbourhood. A light puff of smoke when the coffin is first introduced is all that reveals the fact that a cremation is taking place, and even this, I believe, can be overcome.

2. It is sometimes said that popular sentiment is against cremation. No doubt this is so at present, because cremation is new and strange whilst interment is old and familiar; but whoever seriously considers the fate which inevitably befalls the body after it has been placed in its "last resting place" must assuredly admit that apart from prejudice sentiment should be in favour of cremation.

THE DISCUSSION.

Alderman A. E. SAWDAY said that personally he w that Leicester was in the van of progress with reg cremation, as he had come to the conclusion that th undoubtedly the best form of disposing of the dead. So as the question of cost was concerned the fees fixed by corporation of Leicester were the lowest that could pos be arranged without the process becoming a burden o rates.

Dr. P. BOOBBYER, medical officer of health of Nottingham, said that he was personally in favour of cremation but he felt that it had many serious difficulties to face. From the public health standpoint it was admirable but on sentimental and religious grounds, according to the Church of Rome, and on medico legal grounds, it was, in the opinion of some people, open to great objection.

Councillor G. CHITHAM, the chairman of the corporation burials grounds committee, expressed the hope that the result of the conference might prove useful in bringing about a greater interest in cremation.

Alderman GEORGE CLIFTON, speaking as a medical man and one of the oldest members of the Leicester branch of the National Cremation Society, said with regard to the question of sentiment that the spectacle presented by bodies exhumed after having been buried for some weeks or months was calculated to make the beholders hesitate before wishing their friends to be subjected to earth burial.

Dr. WILLIAM COLLINGRIDGE, Alderman WINDLEY (the chairman of the sanitary committee of the corporation of Leicester), Mr. J. E WILLCOX, and Mr. W. A. CLARKE (deputy coroner for the borough of Leicester) also took part in the discussion.

After luncheon the members of the institute visited the borough crematorium.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the General Sanitary Circumstances and Administration of the Rural District of Sleaford, by Dr. L. W. DARRA MAIR [1]—Dr. Mair gives a surprising account of what passes for "local sanitary administration" in Lincolnshire. The Sleaford rural district, with an area of over 200 square miles, has a total population of some 17,000, mainly grouped in numerous villages on the edge of the Lincolnshire *fens*. Certain of these villages possess public water-supplies which have been obtained by deep boring into the great oolite or by impounding natural springs. The majority of the villages, however, are in a very unsatisfactory position with regard to water. Some depend upon surface wells situated in shallow patches of gravel overlying a clay soil and liable to serious pollution; others obtain their water from local streams which are contaminated by sewage. Among the latter is the village of Billinghay, where about 1200 inhabitants are dependent for water on dipping places in Billinghay Skirth, many of which are below the outfalls of the local sewers. Similarly the occupants of groups of dwellings near to the River Witham are obliged to draw their supplies from that stream which has already been seriously polluted in its higher reaches. After making allowance for the fact that in some villages where public water-supplies exist the distributing mains are deficient, and thus only a portion of the village gets the benefit of the supply, Dr. Mair reckons that not more than 20 per cent. of the population of the district is supplied with safe water. If, however, the rural council had been guided by, and had taken action on the advice of, its officers "it is probable that nearly 80 per cent. of the population would be so supplied at the present time." Several feasible schemes for the combined supply of villages have been prepared at different times. The main reason for their having come to nothing is that the rural council has for many years been in the habit of regarding water-supply (as also other sanitary matters) as of purely parochial concern. The council consists of 57 members, who meet at Sleaford workhouse once a month after the conclusion of the Poor-law business. This unwieldy body seldom appoints any committee and appears to be content to dispose of all sanitary questions by referring them to the parish councils of the places concerned. Parish councils have, of course, no responsibility in the matter and where the question of combined action in several parishes arises they not unnaturally fail to agree over more or less trivial points, with the result that the district council is furnished with what it regards as sufficient excuse for doing nothing. In 1896 the surveyor reported on the need for a public water service for the neighbouring villages of Great Hale and Little Hale and suggested two alternative schemes for providing both places with a common supply. The report was "referred to the parish councils." Opposition came from both and one of them reported that a parish meeting had been convened at which it was unanimously resolved "that a cistern be built to contain the water running from the parish church (subject to the approval of the vicar and churchwardens) and the ratepayers consider that would be sufficient to supply the village." Both schemes were then allowed to fall through. Subsequently, the parish council in question was sensible enough to prefer the great oolite to the church roof and obtained an abundant supply by deep boring. But the neighbouring village, less than a mile away, was left without water, although, whilst they were about it, both places could have been supplied almost as easily as one. Dr. Mair gives other and equally striking instances of the inefficiency which has resulted from the district council's method of performing or neglecting its duties. One result of the policy of placing the duty of preparing water schemes upon irresponsible parish councils has been the frequent employment of water diviners, whose advice on several occasions has entailed a large amount of boring without finding water. Besides referring to outbreaks of enteric fever which have occurred from time to time in association with polluted water in this district, Dr. Mair draws attention to the insanitary condition of many of the houses and their surroundings and to serious pollution of streams by sewage. There is no public scavenging, even in the larger villages. The duties of inspector of nuisances are performed by the council's surveyor who has but little time to devote to them. Two road surveyors each receive £40 a year in respect of work as "assistant inspectors of nuisances," which in practice they do not perform.

On Sanitary Circumstances and Administration in the Urban District of Abertillery, by Dr. S. W. WHEATON.[2]—This report describes many unsatisfactory conditions met with in an important and growing mining district in Ebbw Vale. Special difficulties, particularly in the matter of water-supply, are created by subsidence of surface due to removal of the underlying coal. The sources of supply are always liable to alteration and the supply obtained from the main waterworks at Cwmtillery has greatly diminished of late. The springs become tapped and drawn into the mines and even the surface of the tops of the hills becomes traversed by deep fissures, so that surface water also finds its way into the mines and is lost for the purpose of water-supply. From the same cause one of the two storage tanks has become cracked and has had to be put out of use, with the result of further curtailing the water available. The supply is intermittent and in many of the dwellings (which usually have no storage cisterns) water is available only for a few hours daily. Moreover, the water-pipes in the upper part of the district during periods of intermission are constantly being sucked dry as a result of water being drawn off at lower levels, so that there appears to be serious risk of insuction of polluting matters through leaks or open taps. While other sanitary defects, notably the bad condition of many of the dwellings, are also in some degree related to subsidence, much of the insanitary character of Abertillery seems to be attributable to local indifference and faulty administration. Builders, for instance, are allowed to put up dwellings of imperfectly burnt bricks, with mortar crumbling and unpointed, with defective roofs, cracked slates, and so on. Yards are badly paved and drained, the yard gullies being often "surrounded by pools of stinking sewage which percolates into the ground near the dwelling," while Dr. Wheaton directs special attention to the filthy condition of many of the slaughter-houses and bakehouses. There is a daily collection of house refuse from pails and iron bins. Difficulty has arisen in disposing of this refuse and a refuse destructor has been suggested. Dr. Wheaton, however, gives a sound reason against this proposal—namely, that owing to the character of the district and the steepness of the roads it would be impossible to continue the daily collection of refuse if all of it had to be taken to a central depôt for destruction. He also criticises the present practice of employing a local medical practitioner at the small salary of £60 per annum to perform the duties of medical officer of health in a district the population of which has already reached 27,000, and suggests combination of Abertillery with Nantyglo and Blaina, and other adjoining districts of Ebbw Vale, for the purpose of employing a medical officer of health to give his whole time to the work. Desirable combinations of this kind have been freely advocated by Local Government Board inspectors in recent years and it may be hoped that the central authority does not intend to be deterred, here or elsewhere, by mere local opposition from giving effect to the important proposals which have been made by its expert staff in the matter.

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[1] London: Wyman and Son, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. Price 3d.

[2] Ibid., price 3d.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8943 births and 5157 deaths were registered during the week ending April 7th. The annual rate of mortality in these towns, which had been equal to 15·8 and 17·0 per 1000 in the two preceding weeks, was again 17·0 during the week under notice. In London the rate fell to 16·8, and was 1·8 below that which prevailed in the previous week, and in the 75 large provincial towns the average rate was 17·0. The lowest death-rates in these towns during the week were 8·4 in Willesden, 8·9 in Aston Manor, and 9·3 in Leyton and King's Norton; the rates in the other towns ranged upwards to 23·8 in Reading, 25·4 in Burnley, 27·1 in Warrington, and 28·1 in Middlesbrough. The 5157 deaths in the 76 towns included 457 which were referred to the principal infectious diseases, against 414 and 492 in the two preceding weeks; of these 177 resulted from measles, 133 from whooping-cough, 49 from diphtheria, 48 from diarrhœa, 31 from scarlet fever, 19 from "fever" (principally enteric), but not one from small-pox. No death from any of these infectious diseases was registered during the week in Bournemouth, Ipswich, Norwich, Stockport, Wigan, York, or in seven other provincial towns; while they caused the highest death-rates in Liverpool, Preston, Walthamstow, Smethwick, and Warrington. The highest rates of mortality from measles occurred in Liverpool, Blackburn, Newcastle-upon-Tyne, Wathamstow, and Hornsey; from whooping-cough in West Bromwich, Smethwick, Handsworth, Plymouth, and Warrington; and from diarrhœa in Rochdale and Smethwick. The mortality from diphtheria, scarlet fever, and enteric fever showed no marked excess in any of the large towns. No death from small-pox was registered during the week either in London or in any of the 75 large provincial towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been ten and eight at the end of the two preceding weeks, were still eight at the end of the week under notice, no new case having been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday April 7th, was 2322, against numbers declining from 2628 to 2386, on the five preceding Saturdays; 292 new cases were, however, admitted during the week, showing an increase of 69 upon the number of admissions in the previous week. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 320 and 337 in the two previous weeks, declined again to 332, but exceeded the corrected average for the corresponding week in the four years 1902–5 by 27. The causes of 54, or 1·0 per cent., of the deaths registered in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, West Ham, Leicester, Nottingham, Salford, Leeds, Newcastle-upon-Tyne, and in 44 other large towns; while excessive proportions of uncertified deaths were registered in Portsmouth, Birmingham, Liverpool, Blackburn, Sheffield, and South Shields.

In 76 of the largest English towns 8055 births and 5200 deaths were registered in the week ending April 14th. The annual rate of mortality in these towns, which had been 17·0 in each of the two preceding weeks, was last week equal to 17·1 per 1000. In London the rate was 17·4, while the average rate in the 75 other large towns did not exceed 17·0. The lowest death-rates in these towns during the week were 8·0 in Willesden, 8·8 in East Ham, 9·2 in Tottenham, and 9·7 in Portsmouth; the rates in the other towns ranged upwards to 22·1 in West Bromwich, 22·6 in Smethwick, 23·1 in Tynemouth, and 25·6 in Liverpool. The 5200 deaths in these 76 towns included 518 which were referred to the principal infectious diseases, against 414, 492, and 457 in the three preceding weeks; of these, 198 resulted from measles, 147 from whooping-cough, 54 from diarrhœa, 51 from diphtheria, [illegible] from scarlet fever, 26 from "fever" (principally enteric), but not one from small-pox. No death from any of these infectious diseases was registered last week in Hastings, Reading, Norwich, Warrington, West Hartlepool, Swansea, or in four other towns; while they caused the highest death-rates in West Bromwich, Manchester, Rotherham, Leyton, Yarmouth, and Liverpool. The highest death-rates from measles during the week occurred in Bury, Manchester, and Liverpool; from whooping-cough in Cardiff, Bournemouth, Leyton, Smethwick, and West Bromwich; and from diarrhœa in Middlesbrough and Tynemouth. Diphtheria caused three deaths in Sheffield, three in Rotherham, and two both in Bradford and Hull. Three deaths were referred to "fever" in Leeds, and two each in Bradford, Newcastle-upon-Tyne, and Rhondda. No death from small-pox was registered during the week either in London or in any of the 75 other large towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals declined to seven at the end of last week, having been eight at the end of each of the two preceding weeks, no new case having been admitted during the past three weeks. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, April 14th, was 2301, against numbers declining steadily from 2628 to 2322 at the end of the five preceding weeks; 270 new cases were admitted to these hospitals during the week, against 223 and 292 in the two previous weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 320, 337, and 332 in the three preceding weeks, rose during the week under notice to 357 and exceeded the corrected average for the corresponding period in the four preceding years by 61. The causes of 60, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Manchester, Salford, Bradford, Leeds, and Newcastle-upon-Tyne; whereas the causes of 12 deaths in Liverpool, seven in Sheffield, five in Barrow, and four both in Preston and in Hull were not certified.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0 and 18·9 per 1000 in the two preceding weeks, further rose to 19·4 during the week ending April 7th, and exceeded by 2·4 the mean rate during the same week in the 76 large English towns. The death-rates in the eight Scotch towns ranged from 17·9 and 18·0 in Glasgow and Aberdeen to 22·[illegible] in Greenock, 22·2 in Paisley, and 23·4 in Dundee. The 65[illegible] deaths in these eight towns included 20 which were referred to measles, 15 to diarrhœa, 12 to whooping-cough, two to "fever," one each to scarlet fever and diphtheria, and not one to small-pox In all, 51 deaths resulted from these principal infectious diseases during the week, against 81, 57, and 62 in the three preceding weeks. These 51 deaths were equal to an annual rate of 1·[illegible] per 1000, which corresponded with the mean rate during the week under notice from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 20 and 27 in the two preceding weeks declined again to 20, and included eight in Glasgow, five in Paisley, four in Edinburgh, and three in Dundee. The 12 deaths from whooping-cough exceeded the number in the previous week by one, and included eight in Glasgow and two in Aberdeen. The deaths referred to diarrhœa, which had been 20, 17, and 12 in the three preceding weeks, rose again to 15, and included five in Glasgow and two each in Edinburgh, Dundee, Paisley, and Perth. The two deaths referred to "fever" were returned in Dundee and Greenock. The fatal cases of diseases of the respiratory organs in the eight towns, which had been 124 and 103 in the two preceding weeks, rose during the week under notice to 142, and exceeded by 25 the deaths referred in these towns to the same diseases in the corresponding week of last year. The causes of 20, or rather more than 3 per cent., of the deaths registered in these eight towns were not certified, against 1 per cent. in the 76 English towns.

The annual rate of mortality in eight of the principal cotch towns, which had been 18·0, 18·9, and 19·4 in the hree preceding weeks, declined to 19·1 during the week nding April 14th, but exceeded by 2·0 the mean rate uring the same week in the 76 large English towns. he rates in the eight Scotch towns ranged from 1·6 and 14·4 in Aberdeen and Paisley to 20·2 in eith, 20·9 in Glasgow, and 24·3 in Greenock. The 55 deaths in these eight towns included 23 which ere referred to measles, 12 to whooping-cough, 11 to iarrhœa, seven to diphtheria, one to "fever," but not one ither to scarlet fever or to small-pox. In all, 54 deaths esulted from these principal infectious diseases last week, gainst 62 and 51 in the two preceding weeks. These 54 eaths were equal to an annual rate of 1·6 per 1000, which as 0·1 below the mean rate last week from the same iseases in the 76 large English towns. The fatal cases of easles, which had been 27 and 20 in the two previous weeks, ose again last week to 23, of which 12 occurred in Glasgow, ix in Edinburgh, three in Dundee, and two in Leith. The 12 fatal cases of whooping-cough corresponded with the umber in the previous week, including six in Glasgow, three in Leith, two in Edinburgh, and one in Dundee. The 11 eaths attributed to diarrhœa showed a decline of four from the previous week; seven were recorded in Glasgow, two in Dundee, and one both in Edinburgh and Leith. Of the seven fatal cases of diphtheria, showing an increase of six upon the number in the previous week, five occurred in Glasgow and two in Edinburgh. The deaths referred in the eight towns to diseases of the respiratory organs, which had been 103 and 142 in the two previous weeks, further rose last week to 170 and exceeded by 53 the number returned from these diseases in the corresponding week of last year. The causes of 25, or nearly 4 per cent, of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been 23 1, 25·6, and 26·1 per 1000 in the three preceding weeks, declined again to 21·1 during the week ending April 7th, but exceeded by 4 per 1000 the mean rate during the same period in the 76 English towns. During the 13 weeks of last quarter the death-rate in Dublin averaged 22 9 per 1000, whereas during the same period the mean death-rate did not exceed 16 6 in London and 17·4 in Edinburgh. The 153 deaths of persons belonging to Dublin registered during the week under notice were fewer by 37 than the number in the previous week and included but four which were referred to the principal infectious diseases, against ten in the preceding week; of these, two resulted from whooping-cough and one each from measles and diarrhœa. The four deaths from these infectious diseases were equal to an annual rate of 0 6 per 1000, against 1 6 and 1·5 from the same diseases in the week under notice in London and Edinburgh respectively. The two fatal cases of whooping-cough in Dublin corresponded with the number in the previous week; and the death from measles was the first recorded in the city since the beginning of the year. The 153 deaths registered in Dublin included 22 of infants under one year of age and 47 of persons aged upwards of 60 years; both these numbers showed a marked decline from the numbers in recent weeks. Four inquest cases and two deaths from violence were registered; and 62, or no less than 41 per cent. of the 153 deaths, were recorded in public institutions. The causes of nine, or nearly 6 per cent., of the deaths registered in Dublin during the week under notice were not certified.

The death-rate in Dublin, which had been 25·6, 26·1, and 21·1 in the three preceding weeks, rose again to 23·4 in the week ending April 14th. During the 13 weeks of last quarter the death-rate in the city averaged 22·9 per 1000, whereas the mean death-rate during the same period did not exceed 16·6 in London and 17 4 in Edinburgh. The 170 deaths of persons belonging to Dublin registered during the week under notice showed an increase of 17 upon the number returned in the previous week, and included six which were referred to the principal infectious diseases, against ten and four in the two preceding weeks; of these, three resulted from whooping-cough, one each from measles, "fever," and diarrhœa, and not any from either small-pox, measles, or diphtheria. The six deaths from these infectious diseases were equal to an annual rate of 0·8 per 1000, the death-rate last week from these diseases being 1·6 in London and 1·7 in Edinburgh. The three fatal cases of whooping-cough in Dublin exceeded the numbers in recent weeks. The 170 deaths included 21 of infants under one year of age and 53 of persons aged upwards of 60 years; the deaths of infants showed a further decline from the numbers in recent weeks, while those of elderly persons showed an increase. Six inquest cases and three deaths from violence were registered; and 71, or 42 per cent., of the 170 deaths were recorded in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: E. St. M. Nepean to the *Empress of India;* J. Bradley to the *Royal Oak;* H. W. Macnamara to the *Euryalus;* W. G. Stott to the *Acheron;* J. Jenkins to the *Hood;* W. J. Colborne to the *Russell;* and G. T. Collingwood to the *President*, additional, for three months' hospital course. Staff Surgeons: C. J. E. Cock to the *Thetis* and to the *Perseus*, on recommissioning; H. H. Pearse to the *Vernon*, additional, for the *Furious;* W. K. Hopkins to the *Victory*, for Portsmouth Dockyard; C. L. W. Bunton to the *Triumph*, on recommissioning; H. E. Tomlinson to the *Bedford;* and J. E H. Phillips to the *Royal Arthur.* Surgeons: R. L. Dickinson and A. G. Eastment to the *Pembroke;* W. L. Hawkins to the *Leda;* F. J. Gowans to the *Triumph;* A. D. Spalding to the *Queen;* G. E. Hamilton to the *Vengeance;* W. N. Horsfall to the *Euryalus;* C. A. G. Phipps, to be lent to the *Trafalgar;* G. S. Davidge to the *Thetis;* E. P. G Causton and J. Verdon to the *Pembroke*, for disposal; and W. N. L Cherry to Royal Marine Division, Chatham.

ROYAL ARMY MEDICAL CORPS.

Captain M. F. Foulds, from Jubbulpore Brigade, is posted to the Bombay Brigade. Colonel D. Bruce, C.B., of the Army Medical Service Advisory Board, is ordered to Malta for duty with the Mediterranean Fever Commission. Colonel A T. Sloggett, C.M.G., P.M.O., London district, proceeds to Lisbon to attend the International Congress of Medicine as English delegate. Major T. H. F. Clarkson is appointed Medical Officer at the Tower of London.

MILITARY HYGIENE AT ALDERSHOT.

A school of military hygiene has been established at Aldershot under the direction of Lieutenant-Colonel R. H. Firth, R.A.M.C., for the instruction of regimental officers and soldiers. Its aim and object is not only to acquaint them generally with the elementary principles and laws of hygiene but to point out at the same time in a simple and practical way the causes of disease in the army and how best to guard against them. We are very glad that a beginning has been made in what promises to become an extremely useful and desirable object, for, practically speaking, very much depends upon the officers and men of our army, especially on field service, understanding and taking sanitary precautions in sufficient time to make them effective.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on April 10th, Sir J. Dick, K.C.B., being in the chair, the sum of £55 was distributed among the several applicants.

LEGISLATION IN REGARD TO CHILDREN.—A conference on legislation in regard to children will be opened by the Lord Mayor at the Guildhall, London, on May 22nd and will be continued on the following day. It has been convened by the committee of the International Congress for the Welfare and Protection of Children held in London in 1902 under the patronage of His Majesty the King and H.R.H. the Princess Louise, Duchess of Argyll, with a view to the discussion, in the light of their latest developments, of certain questions which were dealt with at the Congress. It will be attended by members of county councils, boards of guardians and other public authorities, magistrates, school managers, teachers, and those engaged in private charitable effort. The following subjects will be considered in all their aspects alike as to principles and details: (1) the free feeding of school children; and (2) children's courts, probation officers, and remand homes. The secretary of the executive committee of the conference is Mr. W. G. Lewis, barrister-at-law, 8 Wells-street, Gray's Inn-road, London, W.C.

Correspondence.

"Audi alteram partem."

ON THE PHYSIOLOGICAL DIVISION OF THE PREGNANT UTERUS.

To the Editors of THE LANCET.

SIRS,—In vindication of my claim to originality in the description of the physiological division of the pregnant uterus and its bearing upon the management of labour, I venture to intrude this short note upon THE LANCET. Dr. G. F. Blacker, in his excellent article on the Management of the Third Stage of Labour,[1] makes the following statement: "The upper uterine segment is from two to three times thicker than the lower uterine segment and the site of the ring of Bandl, the so-called retraction ring or the line of union between the two segments, is now apparent." From this it seems that Dr. Blacker has fallen into the error of assigning to Germans the discoveries of Englishmen. The first description of the uterus in its bearing on placenta prævia was made by me in THE LANCET in 1847 and more fully in the publication of my Lettsomian lectures in 1857, and it has been frequently discussed by me on subsequent occasions. The fundamental idea of my theory has been generally adopted. The uterus was divided into three zones: (1) the upper or fundal; (2) the equatorial; and (3) the lower. The fundal zone is divided from the equatorial by an imaginary line, the upper polar circle. This line had not been anatomically demonstrated by anyone but myself. But it seems to mark a distinction which, I believe, is real, between the properties of the upper and lower zones in their relations to placental attachment and to hæmorrhage. The equatorial zone is divided from the lower zone by a line, "*Barnes' boundary line*, 1847–1857," and since distinguished as *Braune's os internum*, 1872, as *Bandl's ring*, 1876, and more recently as *Schroeder's contraction ring*. If priority of discovery and publicity justify a claim to originality I am entitled to protest against the substitution of the term *Bandl's ring* for *Barnes' boundary line*.—I am, Sirs, yours faithfully,

April 16th, 1906. ROBERT BARNES, M.D. Lond.

THE WORKMEN'S COMPENSATION BILL.

To the Editors of THE LANCET.

SIRS,—The Workmen's Compensation Bill having now passed the second reading I append extracts from the printed Bill of such paragraphs as will affect the medical profession. It will be noticed that the medical referees, if the Bill passes in its present form, will be required to give their services on certain occasions instead of being entirely unemployed as under the Act of 1897, for in Paragraph (15) of the first schedule, Subsection (*b*), the "may" which made the Act abortive is changed to "shall." In Subsection (*a*), however, there is still a "may" and also in Paragraph (15) of the second schedule there is "may" again, and unless these "mays" are altered to "shalls" the functions of the medical referees will be curtailed—that is, if the experience of the last seven years is any guide to the attitude of county-court judges to the question of medical referees. It will be seen also that the whole status, remuneration, and methods of performing the examinations they may be called on to make of medical referees will be subject to the regulations made by the Secretary of State. I feel quite sure, however, that before these regulations are made the Secretary of State will have before him full information and that the regulations will harmonise with the ethics of the profession.

I am, Sirs, yours faithfully,
ALBERT BENTHALL, F.R.C.P. Edin.

Haverstock hill, N.W., April 12th, 1906.

Extracts from the Workmen's Compensation Bill, 1906.

II. (1) The Secretary of State *may* appoint such legally qualified medical practitioners to be medical referees for the purposes of this Act as he may with the sanction of the Treasury determine, and the remuneration of, and other expenses incurred by medical referees under this Act shall, subject to regulations made by the Treasury, be paid out of moneys provided by Parliament.

First Schedule.—Scale and conditions of Compensation.—(4) Where a workman has given *notice* of an accident he shall, if so required by the employer, submit himself for examination by a duly qualified medical practitioner provided and paid by *the employer, and if he refuses to* submit himself to such examination, or in any way *obstructs* the same, his right to compensation, and any proceeding under this Act in relation to compensation, shall be *suspended until such* examination has taken place

(14) Any workman receiving weekly payments under this Act shall, if so required by the employer, *from time to time* submit himself for examination by a duly qualified medical practitioner provided and paid by the employer. If the workman refuses to submit himself to such examination or in any way obstructs the same, his right to such weekly payments *shall be suspended* until such examination has taken place.

(15) A workman shall not be required to submit himself for examination by a *medical practitioner* under paragraph (4) or paragraph (14) of this schedule *otherwise* than in accordance with regulations made by the Secretary of State, or at more frequent intervals than may be prescribed by those regulations. Where a workman has so submitted himself for examination by a medical practitioner and *the employer* has within six days after such examination furnished the workman with a copy of the report of that practitioner as to his condition, then in the event of no agreement being *come to between* the employer and the workman as to the workman's condition or fitness for employment, the *registrar of* the county court on application being made to the court by either party: (*a*) may, on payment by the applicant of such fee not exceeding two pounds as may be prescribed in the case of a submission for examination under paragraph (4) of the schedule; and (*b*) shall without any fee in the case of a submission for examination under paragraph (14) of this schedule, refer the matter to a medical referee. The medical referee *to whom the matter is so referred shall, in accordance with regulations* by the Secretary of State, give a certificate as to the condition of the workman and his fitness for employment, specifying, where necessary the kind of employment for which he is fit, and that certificate shall be conclusive evidence as to the matters so certified. If a workman on being required so to do refuses to submit himself for examination by a medical referee to whom the matter has been so referred as aforesaid, or in any way obstructs the same, his right to compensation, and any proceeding under this Act in relation to compensation, or in the case of a workman in receipt of a weekly payment his right to that weekly payment, *shall be suspended until such examination* has taken place. Rules of court may be made for prescribing the manner in which documents are to be furnished or served and application made under this paragraph and the forms to be used for those purposes and, subject to the consent of the Treasury, as to the fee to be paid under this paragraph

Second Schedule.—Arbitration.—(15) Any committee, arbitrator, or judge may, subject to regulations made by the Secretary of State and the Treasury, appoint a medical referee to report on any matter which seems material to any question arising in the arbitration.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 14th, p. 1071, Mr. B. G. A. Moynihan asks, "Is there any surgeon who has a moderate experience of both operations who prefers the anterior method?" As one who possesses such experience I reply to his query in the affirmative. I have repeatedly practised the posterior no-loop method with uniformly good results. I have also in a very much larger number of instances performed the anterior operation and I prefer it. Like Mr. Moynihan, I have no cases of regurgitant vomiting nor do I think this untoward sequel will occur after the anterior operation if the jejunum is fixed to the stomach for a short distance beyond either end of the anastomotic opening. I attach some importance to the position of the opening in the jejunum, making it midway between the mesenteric and anti-mesenteric borders on the right side of the intestine. This position allows the jejunum to be applied to the stomach without twisting it on its *longitudinal axis*. It is claimed for the posterior method that it gives a dependent opening; so does the anterior operation if this opening is made, as it should be, flush with the great curvature. To secure this it is permissible to ligature one or more of the vessels running over the lower part of the anterior wall of the stomach.

I have no experience of post-operative jejunal ulceration in a series of more than 100 anterior gastro-jejunostomies, but I freely admit that, according to our present views of the causation of this undesirable sequel, it should occur less frequently after the posterior operation. On the other hand, the anterior method is simpler and therefore easier to perform; it involves less exposure and handling of the transverse colon and omentum and a smaller risk from shock and peritoneal soiling, and in the event of peritoneal infection it permits of direct drainage, whereas in the posterior method the operator has "burnt his boats" should this dire calamity supervene. Both operations when properly performed give admirable results and are wonderfully safe; indeed, it may be permitted to doubt whether there is much to choose between them, and what there is is probably overshadowed by the rsonal equation of the operator. Most will agree that, her things being equal, simplicity counts for something in rgery, and it is the greater simplicity of the anterior eration which appeals to me.

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[1] See THE LANCET, April 14th, 1906, p. 1028.

I am, Sirs, yours faithfully,

Sheffield, April 14th, 1906. SINCLAIR WHITE.

IN PRAISE OF RUM AND MILK.

To the Editors of THE LANCET.

SIRS,—In the midst of the clamour and distracting claims the advocates of whisky and brandy, of wine and bitter er, of "pot stills" and "patent stills," and of endless her forms and devices of alcohol, to be used for strictly edical purposes only, I venture to put in a word on behalf my venerable old friend, good Jamaica rum. Not, be it marked by way of *caveat*, in its natural and unregenerate ate—for even reforming "Jack" is giving it up as a verage and finds he is much better without it—but when arried to milk, in a combination which, like all well-assorted ions, brings out to advantage the good qualities of both rties to the alliance. A pretty long experience of the rtues of this ancient preparation emboldens me to say that doctors who find it necessary to prescribe alcohol as a imulant to their patients, for which purpose it is often valuable, would do so in the form of rum and milk there ould be far less risk than there is with other alcoholic verages of the use of the remedy being perpetuated as an dispensable indulgence. There is no form in which alcohol so easily tolerated by even the most fastidious stomach as that of rum and milk and the indigestion *must be a very* opeless one which will not yield to a diet of a small cup of arm milk to which a teaspoonful of rum has been added, llowed by a plain biscuit or two and some very mild cheese, aradoxical as this combination may seem.

I know that many people, especially those of superfine iste and with fancied delicacy of digestion, will exclaim hen such a diet is prescribed to them that they cannot bide either rum or cheese. And I must confess that there rather a haze of vulgarity about both of them. But apart om this very venial defect, which might be cured by dubbing ne *lait au rhum* and the other *fromage dyspeptique*, the ause of their dislike probably is that they have been in the abit of taking too much of them or not taking them in a dicious form. Taken wisely and not too well they will be ound hard to beat, by the dyspeptic as well as by the convalescent from sickness, for use as a happy combination of timulant and nutriment which is much less costly and more ustaining than any of the numerous alcoholic "pick-me-ps" which are now so sedulously forced under the noses of e profession.

I am, Sirs, yours faithfully,

Gloucester, April 15th, 1906. FRANCIS T. BOND, M.D. Lond.

THE STATUS OF THE HAMPSTEAD GENERAL HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Will you allow me to supplement your annotation egarding the above with a little more detailed information or the benefit of your readers, as I think they are likely to ather an incorrect impression from it? Although the ospital has recently been moved into larger and more suitble buildings than those formerly occupied there has hitherto een no change made in its constitution and management. or the past 12 years the hospital has drawn its patients from Hampstead, Highgate, Hendon, and the adjoining neighourhood," the latter including Gospel Oak and West Hampead. The out-patient department has been in existence for ver ten years, and there have been free beds as well as conributory beds for 12 years. With regard to these latter, I elieve this institution is the pioneer of what I venture to ope may become the common practice in all London ospitals, with the exception of the 13 teaching hospitals—z, the *establishment of contributory beds with the right to he patient to bring in his own doctor* to attend him, it always eing understood that inquiry is made of the patient as to is means, on the one hand, and, on the other, that the octor partakes in the giving of charity by meeting the eans of the patient in the matter of fees. I believe this rrangement if adopted universally would meet Mr. Sydney olland's views without founding any new institutions for he purpose.

Further, we have had inquiry made into the means of those applying for out-patient relief for the last eight years. Those families in which the total wage-earnings amount to 5*s.* per head per week or under are considered suitable cases; where this basis is exceeded each case is considered upon its merits; those deemed unsuitable are referred to the provident dispensaries or sent back to their private medical attendant. Since the dispensary patients get no benefit until they have been members for a month, and since the majority of such cases as we send on cannot pay the 5*s.* demanded by them to secure immediate attendance, it is arranged that they may attend the hospital during that month provided they bring evidence to show that they have joined the dispensary, and then at the end of the month they are sent over to the dispensary medical officer with a letter saying what has been done for them. Such a system is, I imagine, only possible in a small out-patient department. I fear that Mr. Humphreys will have conveyed to your readers in his letter of a week or two ago that we have a vast army of out-*patients attending the hospital.* That is not so; and I believe that it is entirely due to the inquiry and the letter system in vogue that the numbers are kept down. It seems, in my opinion, to be the only good point to be said in favour of any letter system that the difficulty of getting letters tends to keep the numbers down. Last year the out-patients numbered 1766; accidents, 646; and dental cases, 91. The total attendances made were 7550. Those who know the number of attendances at a respectably sized out-patient department in London will agree with me that 20,000 is a very ordinary number and therefore we are well below the mark. Assuming, therefore, that out-patient departments are permissible in hospitals I submit that there is not a *casus belli* upon this point in connexion with the Hampstead General Hospital.

As to casualties, the following regulation is in force:—

> Casualty cases are to comprise only urgent medical and surgical cases. Such cases are to be attended for two days only and to be then referred to the out patient department and directed to procure letters for the same or a doctor's visiting card in lieu thereof.

This has been in force since November, 1902, and these cases are questioned as to means when they come under the inquiry officer in the out-patient department. With regard to "the comparatively well-to-do patients" which you suggest inhabit the wards of the hospital I can assure you, from my experience in other institutions, that our patients are of the usual type found in metropolitan hospitals, no better and no worse.

I hope your readers will infer that beyond increasing the number of available beds the move into the new buildings has not so far led to any changes which justify the phrase, "it has now developed into a general hospital." It has been a general hospital, in fact, for the past 12 years, though the actual name was only adopted a few years back and then for good reasons. I regret that my amendment was not carried at the recent meeting of the division of the British Medical Association to which you refer. There appears to be a reform party who aim at abolishing all out-patient departments in London. I cannot agree with that policy nor can I understand why they have commenced their operations with one of the smallest and least abused out-patient departments in London. I do not yet know which institution will be the next one to come under the ban, but with yourselves, doubtless, will await the disclosure with interest.

I am, Sirs, yours faithfully,

Belsize-park, N.W., April 17th, 1906. LEWIS G. GLOVER.

A COUNTERBLAST TO TOBACCO.

To the Editors of THE LANCET.

SIRS,—The proposed legislation, so far as I can see, would not stop juvenile smoking. Boys would smoke in the streets as they do at present and no one would have any right to interfere with them. No conviction of a seller would be possible except from the evidence either of the purchaser himself or of a bystander and such evidence would rarely be procurable. The bystander would be easily eliminated from the transaction and the juvenile smoker might be trusted not to dry up the sources of his illicit gratification. A legislative assembly capable of passing such an enactment might rightly be called the grandmother, rather than the mother, of Parliaments and would be doing pretty nearly as much as was possible within the four corners of a single Act to bring all law and order into disrepute. The most effective methods of preventing juvenile smoking would be those adopted by that able officer of His Majesty's navy, Mr. Falcon, as recounted by Peter Simple, but it is to be feared that modern sentiment would not allow such obvious interference with the liberty of the subject.

Apart from the futility of the particular measure the question of the desirability of interference with juvenile smokers, and especially of interference to be confined within a new and arbitrary age limit, is one that calls for careful consideration. If there is to be interference at all, why should it cease at the age of 16 years and why should it not extend to the period at which young people become legally independent and responsible in all other directions? The sole basis of the proposed legislation is that smoking is believed to be injurious to the bodies of the immature, just as extravagance would be injurious to their estates. A minor is not allowed by law to dissipate his estate; why should he be allowed to persist in an indulgence which would dissipate his health? The positive evidence which we possess of the poisonous action of tobacco is mostly, if not entirely, furnished by adults. The subjects of tobacco blindness are usually men in middle life and it is, perhaps, rare to recognise tobacco as a cause of any definite ailments under 30 years of age. Lord Roberts has recently sent a message to the boys of Birmingham in which he tells them that they cannot be "thoroughly fit" if they begin smoking when they are growing lads. He adds that smoking affects the nerves and prevents a boy from becoming a good rifle shot. It affects the heart and may render the boy incapable of undergoing the hardships of active service when he is grown up. Lord Roberts, no doubt, is absolutely convinced of the accuracy of these statements, and I am so far from desiring to question them that I think they are very probably well within the truth. But if they are true for growing lads they are probably true also, if possibly in a less degree, for adults. Lord Roberts advises boys not to smoke until they have passed the age of 18 years, while Dr. Macnamara's Bill would fix 16 years as the age for commencement. What is the evidence in favour of either limit? or what reason is there to believe that a practice which is injurious at 17½ years of age would be harmless or even beneficial six months later?

Are we not in need of careful physiological inquiry into the action of tobacco, and do we really know much about it beyond the admitted facts that it is highly injurious in a certain proportion of smokers, and apparently harmless to the majority, who, moreover, would not pursue an expensive habit unless they derived some sort of gratification from it? Many persons are of opinion that a race which had grown up outside the influence of narcotics would be in every respect better, stronger, more capable, and, in a word, more manly, than a race which had become dependent upon them; and it is certain that history would not assign to the users of such agents a high position among the rulers of the world. Looking beyond quite modern times, the Turks have been the greatest consumers of tobacco and the Hindoos and Chinese of opium, and the examples set by these nations are not entirely encouraging to those who follow them. Neither the heavy smokers of our own day nor the habitual consumers of morphine, of cocaine, or of other vegetable narcotics are likely to be largely contributory to the success of the Imperial idea, and if we put aside preconceptions arising from personal tastes or social habits it is difficult not to conclude that the undrugged man is likely to be in all respects better than the drugged one. The history of opinion upon the subject is far from being satisfactory and it is high time that opinion was replaced by knowledge. A physiological inquiry into the action of tobacco, if carefully and impartially conducted, would be likely to furnish results of much practical value to mankind.

I am, Sirs, yours faithfully,
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THE ARMY MEDICAL RESERVE.

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SIRS,—The idea of forming a Royal Army Medical Corps reserve out of young surgeons who would be obliged to go through a definite course of training may be a very good one, although it remains to be seen how the method will work when put into operation, the first essential to its origin being the supply of men to train. Will enough men be found to devote the time not only for initial but for annual training? For as years went on medical men would not find it easy to leave their work for a month in the year to be devoted solely to military reserve training. But what about the hundreds of civil surgeons who went through a long training and gained experience in the South African war? Why is there no scheme to utilise the services of men who received not one month in a year but 12 months or more of active service abroad? It cannot be that these were of no use and that they did not gain experience. It would appear that there is a reserve ready made if the War Office would but bring it out—at least, amongst such men as obtained satisfactory reports for services rendered. The War Office should have created a strong Royal Army Medical Corps reserve after the South African war of men who had seen hard and long training and service.

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(FROM OUR SPECIAL COMMISSIONER.)

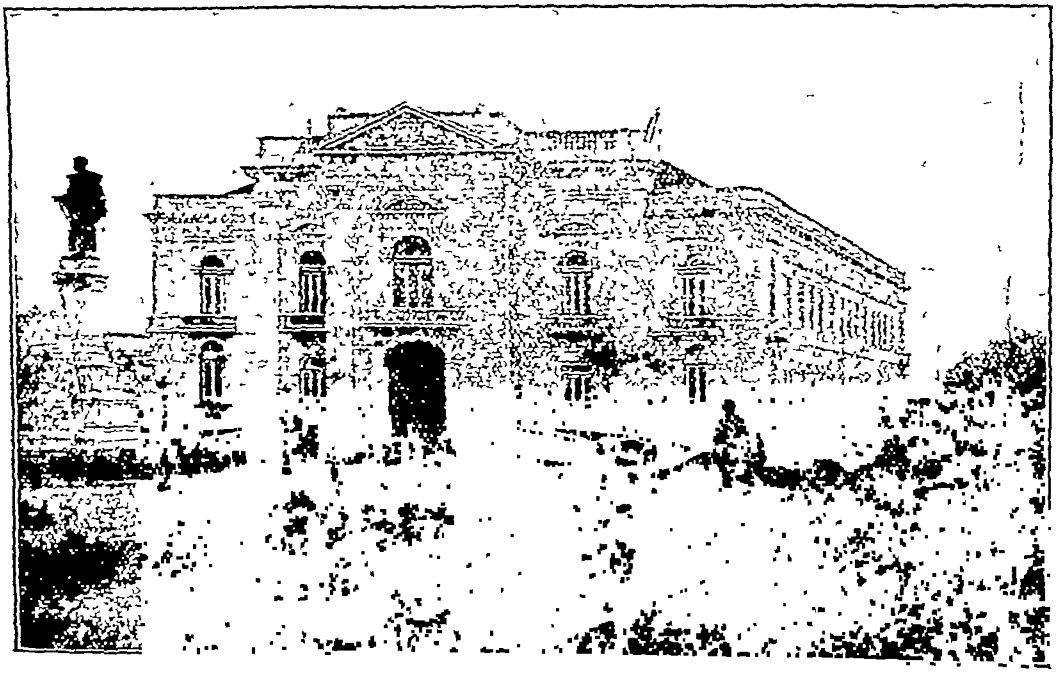
Lisbon, April 12th.

WHAT THERE IS TO BE SEEN AND STUDIED AT LISBON.

THE members of the International Congress of Medicine will find that apart from the debates and business of the 17 sections there is much to observe and study in Portugal. All travellers have admired the beauty of the site, the aspect of the seven hills now comprised within the extended boundary of Lisbon, and the majestic expanse of the Tagus, with its many ships of war and of peace lying at anchor in front, and, as it were, at the very feet, of the ancient capital. The quaint, steep, winding, narrow, old streets, the broad tree- and flower-planted modern avenues, these and many other characteristic features of the capital of Portugal will not fail to charm and to impress the visitor. But apart from such general attractions the members of the Congress will find a great deal that is of special technical interest to them as medical men and as sanitary reformers.

It is, indeed, curious how little seems to be known in England about Portugal. Certainly it is but a small country, yet in the periodical literature of England, the newspapers and the magazines, articles and dissertations abound about such small countries as Holland, Belgium, and Switzerland. On the other hand, Portugal is but rarely mentioned. Perhaps the Fifteenth International Congress of Medicine will help to remedy this omission. If the members can only find time to go about and to investigate some special questions, to visit some of the institutions in which they are particularly interested, they will discover that in many respects Portugal is quite abreast of the times. It may even be said that in some important matters Lisbon leads the way. For instance, how much London would gain if it possessed a model slaughter-house such as that which was built long ago at Lisbon. How extremely interesting also is the long and arduous struggle of the authorities to secure cheap and wholesome meat for the people. Some years ago the cattle-dealers formed a "ring" or "combine" so as to control the market. Instead of competing with one another they agreed to pay less for cattle and to increase the sale price of meat. Thus they won on both sides and this at the cost of the cattle-breeders and of the consumers of meat. Thereupon the municipality thought it would break up this "combine" by itself buying cattle and selling meat. Municipal butchers' shops were therefore opened in various parts of the town and even hawkers were sent round to sell the municipal meat on barrows. The cattle-breeders, however, failed to appreciate this action, though it was intended to protect their interests. Instead of supporting the municipality they allied themselves with the cattle-dealers and so arranged matters that the municipality had to pay a very high price for the cattle which it bought; on the other hand, as the municipality sold the meat very cheaply it soon incurred a heavy loss. But the greatest disappointment of all was the fact that hardly any poor people profited by this action; they rarely got hold of any of the municipal meat. It was for the most part bought up by hotel keepers and people who were rich enough to bribe the intermediaries. A special municipal committee was then appointed to investigate the question

After a long inquiry the present system was instituted. A sort of monopoly was offered and tenders were invited. The concessionaire or monopolist would be the sole person authorised to buy cattle, but, on the other hand, he had so to arrange matters that the meat could be retailed to the public at an average price of about 10*d.* per pound. A regular tariff is established in regard to the various parts of meat and the retail price at which it is to be sold. The number of butchers' shops allowed is limited and the police watch constantly to see that the meat is sold at the prices fixed by the tariff But the object was not only to prevent such speculations and combinations as would tend to increase the retail price of meat; it was also thought desirable to encourage the home breeders of cattle. Therefore the concessionaire was also bound down by the terms of the contract to purchase his cattle from the Portuguese cattle-breeders. If, however, through some exceptional or other circumstance—the shortage of supply or the outbreak of cattle disease—Portuguese cattle becomes too dear for the meat to be retailed at the regulation price then the concessionaire is allowed to import cattle from abroad and this without having to pay any duty. Finally, in case of extreme emergency, the importation of frozen meat would be sanctioned. But this latter contingency is considered so improbable and viewed with so much dislike that no cold storage rooms exist at the slaughter-house. It would be necessary to build such places before frozen meat could be imported. Therefore visitors to Lisbon will enjoy fresh meat and will not be called upon to eat any cold storage meat.



The School of Medicine, Lisbon, where the Congress holds its meetings.

In this arrangement, however, two important and dominating factors were not taken into consideration. It was forgotten that as it was almost impossible to prevent Spanish cattle straying over into Portugal and Portuguese cattle wandering away into Spain, causing any amount of frontier disputes and "incidents," a *treaty* had been concluded abolishing all duties on cattle between the two countries. The second omission was *that* no account was taken of the varying value of gold. Some years ago, when Portuguese credit was at a low ebb, the Spaniard, with cheaper gold, had every advantage in buying cattle in Portugal. But in time the conditions altered, gold became cheaper in Portugal; there was a moment during the war between Spain and the United States of America when gold was at 100 per cent. premium in Madrid, and even to-day it is at 30 per cent. premium. *Therefore it is the Portuguese* who have every advantage in buying Spanish cattle, particularly if these can be passed off as Portuguese cattle and sold at the enhanced price artificially created so as to encourage cattle breeding in Portugal. Thus now a great discussion has arisen as to what constitutes a cattle breeder. There is a cattle market not far from the slaughter-house. Here there is, and can be, only one purchaser, but there are many to sell. Here the live cattle are inspected by veterinary surgeons and the one purchaser has every interest to see that cases of disease are detected; he has also every interest to prove that the cattle are not home bred, because if there are not enough Portuguese cattle he may bargain and beat down the price of imported cattle. Having secured the necessary amount of cattle the concessionaire has to hand them over to the municipal authorities at the slaughter-house and pays them for killing. This, from the public health point of view, is the most important part of the proceeding. All the slaughterers, all the workers who prepare the meat and carry out the multifarious other processes connected with the killing of animals for food, are employed by the municipality. No one has any interest to serve in saving from destruction any unwholesome meat. The retail butcher who, by the way, is not a butcher since he does not kill, has every interest in having only sound meat, since it does not come from his own cattle. The butcher has no cattle, he is *simply a tradesman*, and his only interest is in so satisfying his customers so as to keep them and increase their number. *Thus* it will be seen that, whatever criticism may be made of the present system, it in any case contributes very *materially* to secure wholesome food for the public. The concession described above, it must be added, only applies to cattle that produce beef and veal. For hogs and sheep anybody may buy or sell, but no one must kill. If an individual was to kill his own pig or sheep he would be severely punished. At the municipal slaughter-house only, and by the municipal employees, is the killing of any animal for food allowed. No one may do this work who has the slightest interest in passing on to the public unwholesome meat. The consumption of meat at Lisbon amounted in 1898 to an average of 31·7 kilogrammes per inhabitant. In possible within the four corners of a single Act to bring all law and order into disrepute. The *most* effective methods of preventing juvenile smoking would be those *adopted* by that able officer of His Majesty's navy, Mr. Falcon, as recounted by Peter Simple, but it is to be feared that modern sentiment would not allow such obvious interference with the liberty of the subject.

Apart from the futility of the particular measure the question of the desirability of interference with juvenile smokers, and especially of interference to be confined within a new and arbitrary age limit, is one that calls for careful consideration. If there is to be interference at all, why should it cease at the age of 16 years and why should it not extend to the period at which young people become legally independent and responsible in all other directions? The sole basis of the proposed legislation is that smoking is believed to be injurious to the bodies of the immature, just as extravagance would be injurious to their estates. A minor is not allowed by law to dissipate his estate; why should he be allowed to persist in an indulgence which would dissipate his health? The positive evidence which we possess of the poisonous action of tobacco is mostly, if not entirely, furnished by adults. The subjects of tobacco blindness are usually men in middle life and it is, perhaps, rare to recognise tobacco as a cause of any definite ailments under 30 years of age. Lord Roberts has recently sent a message to the boys of Birmingham in which he tells them that they cannot be "thoroughly fit" if they begin smoking when they are growing lads. He adds that smoking affects the nerves and prevents a boy from becoming a good rifle shot. It affects the heart and may render the boy incapable of undergoing the hardships of active service when he is grown up. Lord Roberts, no doubt, is absolutely convinced of the accuracy of these statements, and I am so far from desiring to question them that I think they are very probably well within the truth. But if they are true for growing lads they are probably true also, if possibly in a less degree, for adults. Lord Roberts advises boys not to smoke until they have passed the age of 18 years, while Dr. Macnamara's Bill would fix 16 years as the age for commencement. What is the evidence in favour of either limit? or what reason is there to believe that a practice which is injurious at 17½ years of age would be harmless or even beneficial six months later?

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The Institute of Hygiene, the School of Tropical Medicine, the Sanitary Department and services at the Ministry of the Interior, the control of the bread- and milk-supply, as well as that of the meat-supply, all are matters of great interest. In regard to milk, it is said that formerly as many as 60 pet cent. of samples examined were found to be defective or adulterated. But on August 23rd, 1902, a decree was published by the Minister of the Interior in regard to the collection of samples of alimentary substances and adding to ordinary penalties the posting on the front of the shop an announcement of the verdict pronounced against the shopkeer. As a result, of 100 samples of milk now collected only three or four are found to be defective. There is another excellent law forbidding the sale by pawnshops of second-hand clothes till they have been disinfected and there are such stringent regulations to prevent the spread of tuberculosis that, in many instances, they cannot be applied. Also there are new and improved methods of disinfection and of dealing with passengers, ships, and merchandise coming from ports where plague, yellow fever, or cholera prevails. These are all matters which must be dealt with in detail. For the moment I can only urge that what I have already seen leads to the conclusion that there is something to be learnt from such investigations; and those who choose to profit by the opportunity will not be disappointed with their visit to Lisbon.

THE LATEST NEWS OF THE CONGRESS.

At a late hour this evening the exact number of subscriptions received from members of the Congress was 1451 and for ladies accompanying them 414. As there are thus 1865 names already inscribed it is probable that when the eleventh hour arrivals are included the total figure will exceed 2000. Among those who have arrived is Dr. A. Fernandez Cara, who was general secretary of the Fourteenth International Congress of Medicine held at Madrid three years ago. Also a large number of Brazilian medical practitioners landed to-day It is a great rush to get the new School of Medicine ready for the Congress. Last night, however, the electric light was tried and found to work quite satisfactorily. Never before, I think, will a Congress have met in such absolutely new premises.

The programme of the fêtes is now definitely decided. The inaugural ceremony will take place at 2 P.M. on Thursday, April 19th, and there is to be a reception by Councillor Costa Alemão, President of the Congress. On the next day a garden party will be given by the Visconde Monserrate at Cintra, though how his beautiful grounds are to be reached by many members of the Congress remains a mystery, as at Cintra there are but few carriages available. On April 21st the King will entertain at dinner the official representatives of the various Governments who have been deputed to attend the Congress. On Sunday there will be what is likely to prove the most pleasurable of all the excursions. The members will proceed on a flotilla of steamers on the Tagus to Villa Franca; there they will be entertained at a Portuguese bull-fight, where. as is known, every care is taken that bull, horses, and men are not hurt. On Monday afternoon, the 23rd a concert will be given to the ladies at the Zoological Gardens and in the evening there will be a soirée for all the members at the premises of the Geographical Society. Here, Portuguese national songs will be rendered and there will be dissolving views of the principal places of interest in Portugal. On the 24th the King will give a garden party to all the members of the Congress at the Palace of Necessidades. In the evening the Government will receive the delegates of the Governments, the schools of medicine, and scientific societies. Finally, on Wednesday, April 25th, the municipality will hold a reception at the town-hall. It will be all the easier to profit by these invitations as the sections will not meet in the afternoon but are summoned for the impossible hour of 8.30 in the morning and are expected to continue to sit till 2 or 3 P.M. without any adjournment.

Great disappointment is felt because Professor Behring has announced that he is too ill to attend. His paper on Infectious Diseases among Children will have to be read by someone else. Also the absence of Professor Brouardel will be greatly deplored. He is suffering from pulmonary congestion and is nursing himself at Antibes on the French Riviera.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Birmingham Lying-in Charity.

A YEAR ago the ticket system was abolished in this charity and was replaced by the adoption of a registration fee of half-a-crown. The result has been advantageous to the hospital, for it has received from the fees an additional income of £155 15s., whilst the subscription list has remained practically unchanged. The number of cases attended during the year was 1432, or 254 more than in the preceding year and 526 more than the average of the previous ten years. The medical officers were called in 119 times. The experience of the year showed that a further and larger supply of trained and certificated midwives is a necessity. Luckily the hospital is prepared to undertake the training and no other institution in the city can offer advantages equal to those which are associated with this charity. Alderman Cook pointed out that the health committee of the city council had recently investigated the question of the supply of midwives in Birmingham and it was found that of the 221 on the local roll only 21 were certified by examination, 52 could neither read nor write, and many had no conception of the details of that cleanliness which is so essential in the performance of their work. The hospital is not at present large enough for the work which it has to perform and for a time the committee had under consideration the advisability of erecting a new central home in Loveday-street. Plans were prepared but it was found that the scheme was not satisfactory, for the proposed building was too large for the site and sufficient light and air were not obtainable. Fortunately, Mrs. Barrow Cadbury offered the charity a piece of land adjoining the present site. This was a gift of enormous value, for it rendered possible the erection of a satisfactory building provided with sufficient light and air space. The only difficulty which now stands in the way is that of money. The new building will cost about £11,000. The amount at present available is only £7357 and the committee now appeals to the public to provide the remaining £4000. Mr. and Mrs. T. S. Walker have promised £100 contingent upon nine similar gifts and of these four have already been promised. It is unfortunate that this appeal for support, which is so thoroughly well deserved, should have to be made at the same time as the appeal for the Queen's Hospital extension, for the two claims must necessarily clash to a certain extent. Still, it can scarcely be doubted that both will be fully responded to.

The Crippled Children's Union and the Adult Cripples' Guild.

In some respects the institutions the object of which is to aid the crippled should be looked upon as the most deserving of our charities, for though in some cases it is hard to die it is often still harder to live a happy crippled life. I am therefore sorry to hear that the Adult Cripples' Guild will be forced to curtail its efforts unless aid is rapidly forthcoming. It requires monetary aid not only for the continuance of its work but also to wipe out an adverse balance and it requires the assistance of employers of labour who are willing to give a chance of employment to those of its *protégés* who are capable of work. The Adult Guild was formed three years ago, its object being still to keep in touch with the cripples after they leave the Crippled Children's Union at the age of 16 years. It is to be hoped that the necessary help will be forthcoming, for it is obvious that to cast the cripples adrift at 16 years of age after taking care of them, first in a special school and then in the Crippled Children's Union, is an act of sheer cruelty, for the care previously bestowed upon them will only have enabled them to feel more acutely their subsequent distress. During a special study on the hygiene of slaughter-houses I hope to describe in detail the technicalities of the Lisbon slaughter-house together with the abattoirs of several other towns. This will form part of the controversy in regard to the Chicago stockyards. For the moment I will only say that all members of the International Congress of Medicine who take an interest in such public health questions should not fail to visit the model abattoir of Lisbon. They will be all the more surprised with the excellence of the arrangements, the abundance of space, air, and light, when informed that this is no new institution but was built so far back as 1871.

To assist such inquiries the organisers of the Congress have just published an excellent medical guide to Lisbon. Of the map which it contains mention has already been made and there is an excellent index, so that the information desired can be obtained in a moment. First we find statistics as to the climate, followed by vital statistics. In 1886 ten surrounding parishes were added to the city, thus raising the population from 187,404 to 242,297 according to the census of 1878, but in October, 1905, independence was restored to a couple of these parishes, reducing the population of the capital from 311,206 to 298,903 according to the census of 1890. The census of 1900 puts the population down at 356,000, therefore there has been a rapid increase. The death-rate is high, particularly if we consider that the birth-rate does not amount to quite so high a figure. The births were equal to 26·34 per 1000 and the deaths to 26·49 per 1000 of the population. But if these figures were given per district it would be found that a great excess of mortality is confined to the old and picturesque quarters of the town which remain to-day in a condition very similar to that in which they were in the time of the Moors. This district, the Alfama, stretches towards the Tagus on the side of the hill where there still stand the walls of the castle built by the Moors and is well worth a visit. It is a veritable labyrinth of narrow winding streets and ramps or stairs. The inside of the houses is often very dirty but it will be found that greater care is bestowed on the bedding than in the bad slums of the great towns of England. The love of ornamented or embroidered pillow-cases and of clean, attractive bedding is a very estimable characteristic even of the very poorest classes in Portugal. The municipality, on its side, endeavours to sweep out these narrow, unwholesome streets very frequently, but all this is insufficient to counteract the havoc wrought by poverty and ignorance, by overcrowding, and by the want of light and air. The narrowest street I saw was the Beco da Bicha, which gives into the Rua Ste. Michel. It was certainly not more than two feet wide and two people going in contrary directions could not pass each other. Close by, such streets as the Beco dos Captivos or the Beco de Formosa are about four feet wide, so that circulation in both directions is quite feasible. It is this quarter which supplies the largest contingent of cases of tuberculosis.

Appropriately situated on the main road that runs by the waterside and forms the limit of this very poor quarter is one of the five economical kitchens which constitute a very remarkable institution, well worthy of study on the part of the British visitors whose minds have of late been disturbed by what has been said concerning the physical degeneration of the British race and the 12,000,000 British subjects who were stated to be living on the verge of starvation. Here in a spacious hall are many tables and a counter behind which there is a large, bright, clean kitchen. The poor man can come here and Sisters of Mercy will serve him with a mugful of good, wholesome, pure wine and a large piece of bread for 30 reis or about 1½*d.* This is the poorest meal contemplated by the establishment. To be reduced to wine and bread is to be reduced to the lowest stage of poverty, a fact well worth noting by those who have grasped the significance of the action of the French Government in abolishing, as a measure for the promotion of temperance, all taxation on cheap "hygienic drinks," light wines being the principal of such beverages. But in Portugal such taxation is not yet abolished and the natural wines of the country have to pay an *octroi* duty of 1½*d.* the litre to enter the city of Lisbon. It is estimated that the *octroi* duties amount to an average of £1 10*s.* per annum per inhabitant of the city. That is why, even in this charitable institution, a mugful of wine, containing a little less than half a pint, costs as much as 1*d.* For the same price a very large bowl of soup is served and for 2*d.* quite a sufficient helping of meat with rice, or beans, or potatoes is given. Thus a complete meal of wine, bread, soup, meat, and vegetables can be obtained for 100 reis or about 5*d.* On this, however, the institution loses heavily. That it is highly appreciated by the poor is proved by the fact that from 4000 to 6000 meals are served daily at each of the five establishments and this could not be done but for extensive charitable subscriptions.

The bad state of the drainage is undoubtedly one of the causes of the high mortality rate. The sewers are very old and defective and many houses have soil pipes that are neither trapped nor ventilated. These houses therefore become sewer ventilators and, considering that the sewers are the reverse of self-cleansing, it is easy to understand that the sewer air drawn inside the dwelling tends to lower the vitality and to predispose the inhabitants to many dangerous forms of disease. Several vast schemes of drainage have been proposed but they evoke great conflicts of interests and are beset with immense financial difficulties. Thus, though every one is agreed that something must be done, as a matter of fact nothing has been done. To obtain a proper water-supply a concession was given to a private company which has to lay water on in all houses of more than £13 annual rental value and to give a third of its water gratuitously to the city for public purposes, fountains, &c. The water comes in covered conduits directly from the gathering grounds and is considered quite safe and pure, though a little hard. Some 51,000 households are supplied with this water which is sold to them for 8*d.* the cubic metre and they consume on an average 47·5 cubic metres per annum per head. There are also some 3000 wells in Lisbon but it would be dangerous to drink the water which they contain. The police, however, are said to allow such water to be used for garden and washing purposes alone.

Another company, a group of cosmopolitan financiers, has provided Lisbon with a complete network of tramways that run frequently and even in very narrow and steep streets, and there are also elevators or cable cars by which very steep hills can be ascended for a small charge and without any fatigue. For the most part the city is lighted with gas but in some instances electricity is used. Mendicity, the reader will be surprised to hear, is forbidden by law, as also the importuning of pedestrians to buy newspapers, lottery tickets, and various trinkets, but it is acknowledged that these things cannot be prevented so long as there are insufficient places to which these people can be taken and set to some useful work. The problem of the unemployed besets the legislature and the municipalities in Portugal as in many other countries.

If there is here, as in most other places, no efficient means of dealing with the able-bodied pauper, there is no lack of hospitals for the poor and afflicted. The new isolation hospital for the treatment of infectious diseases and, close by, the hospital for tuberculosis are well worth a visit, and I hope on a future occasion to describe in detail what I saw there. Most of the hospitals, however, are not newly constructed. When in 1834 absolutism was abolished in Portugal, many of the convents were suppressed and converted into hospitals. But the hospital of Estaphania for special diseases of women was built some 30 years ago and to it have been added, in the gardens, some pavilions that are especially worth visiting. One of these is built on pillars standing over a concreted basement. The boards that form the floor are not joined together; it is possible to pass a small pencil between each of them, so that fresh air travels upwards throughout the whole of the flooring. The beautiful gardens at the disposal of the convalescent patients, the order and cleanliness, the brightness and light prevailing throughout, will certainly be admired by all visitors, and I hope to describe more fully on another occasion my inspection of this hospital. There are several other important hospitals.

The Bacteriological Institute is by the side of the new medical schools where the Congress meets. It is a recent structure and will not fail to attract many members of the Congress. All the most recent improvements have been introduced here. There are numerous laboratories—some for students, some for the professors, and others for the various forms of work done. Thus there are stoves and heated cupboards for maintaining culture broths at a certain elevated temperature, but there are others for keeping them cool and below the outside temperature, at least during the summer. The preparation of serums is an important department and for this there are some fine stables where donkeys are kept to provide the necessary blood. These animals luxuriate on the best of food and in admirably sanitary stables. They look very sleek and healthy. Of course many other animals are kept on the premises. Of the patients, the most numerous come to be treated for hydrophobia. In 12 years 9547 persons were treated for bites from animals believed to be suffering from rabies. There are also wards for the treatment of children suffering from diphtheria, which is unfortunate, for there is no advantage, and perhaps some risk, in having so infectious a disease in the same building as the bacteriological institute. It is true that elaborate precautions are taken but it would be much preferable to send these children to an isolation fever hospital which is well away from the centre of the town and from other buildings.

The Institute of Hygiene, the School of Tropical Medicine, the Sanitary Department and services at the Ministry of the Interior, the control of the bread- and milk-supply, as well as that of the meat-supply, all are matters of great interest. In regard to milk, it is said that formerly as many as 60 per cent. of samples examined were found to be defective or adulterated. But on August 23rd, 1902, a decree was published by the Minister of the Interior in regard to the collection of samples of alimentary substances and adding to ordinary penalties the posting on the front of the shop an announcement of the verdict pronounced against the shopkeer. As a result, of 100 samples of milk now collected only three or four are found to be defective. There is another excellent law forbidding the sale by pawnshops of second-hand clothes till they have been disinfected and there are such stringent regulations to prevent the spread of tuberculosis that, in many instances, they cannot be applied. Also there are new and improved methods of disinfection and of dealing with passengers, ships, and merchandise coming from ports where plague, yellow fever, or cholera prevails. These are all matters which must be dealt with in detail. For the moment I can only urge that what I have already seen leads to the conclusion that there is something to be learnt from such investigations: and those who choose to profit by the opportunity will not be disappointed with their visit to Lisbon.

THE LATEST NEWS OF THE CONGRESS.

At a late hour this evening the exact number of subscriptions received from members of the Congress was 1451 and for ladies accompanying them 414. As there are thus 1865 names already inscribed it is probable that when the eleventh hour arrivals are included the total figure will exceed 2000. Among those who have arrived is Dr. A. Fernandez Caro, who was general secretary of the Fourteenth International Congress of Medicine held at Madrid three years ago. Also a large number of Brazilian medical practitioners landed to-day It is a great rush to get the new School of Medicine ready for the Congress. Last night, however, the electric light was tried and found to work quite satisfactorily. Never before, I think, will a Congress have met in such absolutely new premises.

The programme of the fêtes is now definitely decided. The inaugural ceremony will take place at 2 P.M. on Thursday, April 19th, and there is to be a reception by Councillor Costa Alemão, President of the Congress. On the next day a garden party will be given by the Visconde Monserrate at Cintra, though how his beautiful grounds are to be reached by many members of the Congress remains a mystery, as at Cintra there are but few carriages available. On April 21st the King will entertain at dinner the official representatives of the various Governments who have been deputed to attend the Congress. On Sunday there will be what is likely to prove the most pleasurable of all the excursions. The members will proceed on a flotilla of steamers on the Tagus to Villa Franca; there they will be entertained at a Portuguese bull-fight, where as is known, every care is taken that bull, horses, and men are not hurt. On Monday afternoon, the 23rd a concert will be given to the ladies at the Zoological Gardens and in the evening there will be a soirée for all the members at the premises of the Geographical Society. Here, Portuguese national songs will be rendered and there will be dissolving views of the principal places of interest in Portugal On the 24th the King will give a garden party to all the members of the Congress at the Palace of Necessidades. In the evening the Government will receive the delegates of the Governments, the schools of medicine, and scientific societies. Finally, on Wednesday, April 25th, the municipality will hold a reception at the town hall. It will be all the easier to profit by these invitations as the sections will not meet in the afternoon but are summoned for the impossible hour of 8.30 in the morning and are expected to continue to sit till 2 or 3 P.M. without any adjournment.

Great disappointment is felt because Professor Behring has announced that he is too ill to attend. His paper on Infectious Diseases among Children will have to be read by someone else. Also the absence of Professor Brouardel will be greatly deplored. He is suffering from pulmonary congestion and is nursing himself at Antibes on the French Riviera.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Birmingham Lying-in Charity.

A YEAR ago the ticket system was abolished in this charity and was replaced by the adoption of a registration fee of half-a-crown. The result has been advantageous to the hospital, for it has received from the fees an additional income of £155 15*s*., whilst the subscription list has remained practically unchanged. The number of cases attended during the year was 1432, or 254 more than in the preceding year and 526 more than the average of the previous ten years. The medical officers were called in 119 times. The experience of the year showed that a further and larger supply of trained and certificated midwives is a necessity. Luckily the hospital is prepared to undertake the training and no other institution in the city can offer advantages equal to those which are associated with this charity. Alderman Cook pointed out that the health committee of the city council had recently investigated the question of the supply of midwives in Birmingham and it was found that of the 221 on the local roll only 21 were certified by examination, 52 could neither read nor write, and many had no conception of the details of that cleanliness which is so essential in the performance of their work. The hospital is not at present large enough for the work which it has to perform and for a time the committee had under consideration the advisability of erecting a new central home in Loveday-street. Plans were prepared but it was found that the scheme was not satisfactory, for the proposed building was too large for the site and sufficient light and air were not obtainable. Fortunately, Mrs. Barrow Cadbury offered the charity a piece of land adjoining the present site. This was a gift of enormous value, for it rendered possible the erection of a satisfactory building provided with sufficient light and air space. The only difficulty which now stands in the way is that of money. The new building will cost about £11,000. The amount at present available is only £7357 and the committee now appeals to the public to provide the remaining £4000. Mr. and Mrs. T. S. Walker have promised £100 contingent upon nine similar gifts and of these four have already been promised. It is unfortunate that this appeal for support, which is so thoroughly well deserved, should have to be made at the same time as the appeal for the Queen's Hospital extension, for the two claims must necessarily clash to a certain extent. Still, it can scarcely be doubted that both will be fully responded to.

The Crippled Children's Union and the Adult Cripples' Guild.

In some respects the institutions the object of which is to aid the crippled should be looked upon as the most deserving of our charities, for though in some cases it is hard to die it is often still harder to live a happy crippled life. I am therefore sorry to hear that the Adult Cripples' Guild will be forced to curtail its efforts unless aid is rapidly forthcoming. It requires monetary aid not only for the continuance of its work but also to wipe out an adverse balance and it requires the assistance of employers of labour who are willing to give a chance of employment to those of its *protégés* who are capable of work. The Adult Guild was formed three years ago, its object being still to keep in touch with the cripples after they leave the Crippled Children's Union at the age of 16 years. It is to be hoped that the necessary help will be forthcoming, for it is obvious that to cast the cripples adrift at 16 years of age after taking care of them, first in a special school and then in the Crippled Children's Union, is an act of sheer cruelty, for the care previously bestowed upon them will only have enabled them to feel more acutely their subsequent distress. During the past year 180 cases have been on the register of the Adult Guild—that is, 20 more than in the previous year. Through the generosity of Mrs. Barrow Cadbury, who lent the Guild a cottage at Blackwell for three months, 28 members were sent away for a holiday, with very beneficial results. At present there are about 20 cases capable of work and unable to obtain it, and it is for these especially that the committee appeals to the employers of labour.

The Royal Orthopædic Hospital.

The new out-patient department of the Orthopædic Hospital has been commenced and when completed it will greatly facilitate the work of the hospital but will not provide everything which is required, for the old hospital must be rebuilt. The committee recognises the necessity for rebuilding, or at all events for considerable alterations and extensions but it sees that the present moment is not an opportune one for an appeal to the public, more especially as it does not wish in any way to interfere with the claims of the Queen's Hospital extension appeals. The hospital was founded in a very small way nearly 90 years ago and it is 40 years since it was transferred to its present site. The work has gradually outgrown the capabilities of the building and a few years ago it became essential to acquire temporary premises for the out-patient work. The premises obtained were hired from the corporation and are now required in connexion with the Council House Extension Scheme. Therefore, of necessity, a new out-patient department had to be erected and ground was acquired on favourable terms from the Colmore trustees. When the building is completed it will have a frontage of 22 feet in Great Charles-street and will extend back for 85 feet, and when the old hospital is rebuilt it will be separated from the new out-patient department only by a garden which will be common to the two buildings. On the ground floor in the new out-patient department there will be an out patients' waiting room large enough to accommodate 85 people, a surgeons' room, dressing rooms, and a dispensary. On the first floor will be exercising rooms and massage rooms for males and females; nurses' rooms, an isolation room, and the bathrooms will be on the second floor. Accommodation for perambulators will be provided in the basement. The foundation-stone of the new department was laid by the Lord Mayor (Councillor A. J. Reynolds) and the ceremony was presided over by the Marquis of Hertford.

Bequests to Local Charities.

Under the will of the late Mrs. Mary Day of Worcester the Worcester Infirmary receives £2000, the Royal Albert Orphan Asylum £500, and the Birmingham Blind Institution £500.—The late Mr. George Martin of Birmingham has bequeathed £100 to each of the following institutions: the General Hospital, the Queen's Hospital, the Midland Eye Hospital, and the General Institution for the Blind.

Police Ambulance.

The recent competition for the Rowland Mason Challenge Cup demonstrated in a very pleasant way the admirable efficiency of the training of the members of our police force in association with ambulance work. The men were keen and active; they knew what was required and how to do it. In the competition they were required not only to treat ordinary accidents but also to rescue insensible persons from a room filled with gas and to extricate others entangled in "live" electric wires and to give efficient first aid to each set of sufferers. The chairman of the watch committee (Mr. Godlee) pointed out that the police gave assistance in about 1000 accidents during the year, therefore it is essential that they should be well trained in ambulance work, and there can be no doubt that competitions such as that for the Rowland Mason Challenge Cup act as useful stimuli.

April 17th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester and Salford Sanitary Association.

THE annual meeting of the Manchester and Salford Sanitary Association was held in the town-hall on March 29th. The report showed a continuance of the steady work in aid of more healthful conditions which has characterised this useful institution. Among other things, an investigation is being carried on as to the possibility of further safeguards for the workers in the manufacture or use of white lead; into the cause of lamp explosions, an inquiry which has brought a diminution of such explosions; into the overcrowding of tramcars, the objectionable and unhealthy character of third-class smoking carriages, &c. Pressure is brought to bear on the city council to extend the provision of cottage baths and washhouses in the poorer parts of the city. It is one of the most civilising and health-saving directions in which the council can expend the ratepayers' money. But baths and washhouses for the poor are hidden away in mean streets; there is no great beauty about them, no architectural splendour or glamour of decoration, no great cost, which latter makes the heart of the average town councillor throb with pride, for he likes to see something that is "an ornament to the city," even if poor women and children have to go unwashed. Even the Local Government Board seems sometimes to be startled at the magnificent borrowings of the corporation. The sum now wanted is £39,715 for new baths and washhouses at Bradford, a working-class suburb. It certainly is a district where public baths and washhouses are needed, for it is said that out of 11,949 dwelling-houses there are only 411 with baths. Swimming-baths, of course, require space and those who want a swim should not begrudge a walk for it, as they cannot be scattered broadcast, but it is quite a different thing for a poor woman with her bundle of soiled clothing and two or three little children who want washing. These conveniences should be near the homes of the people.

Placarding Alcohol.

One of the attractions at the meeting of the Sanitary Association was the presence of Professor G. Sims Woodhead who gave an address on the relationship of alcohol to nutrition. He spoke of the former as lowering the action of the various tissues and organs of the body, of how it blunted the sensations, and among them those of hunger and fatigue, and ended his discourse by saying that the only disease from which teetotalers died more frequently than moderate drinkers was old age. To show, however, that this teaching is not universally received, one need only go as far as Warrington where recently at a meeting of the town council one of the members protested against the issuing of a placard calling attention to the evil effect of the abuse of alcohol on public health. "Alcohol was all right," he said, "if taken regularly," and he drew attention to the opinion of a medical man that it was the best thing in the world for killing microbes. One cannot pretend that the scientific standard of the Warrington town council is very lofty, but when the mayor stated that the people for whom it was meant would be too drunk to see the placard a ray of common sense illumined the mind of an alderman who said that was the best reason for its publication, for those who could read it might tell the others. The placard was founded on the Birmingham model and on the recommendation of the Committee on Physical Deterioration. After all the discussion it was decided to publish the placard.

A New Ear Hospital.

The Manchester Ear Hospital was founded in 1855 by a few gentlemen who were anxious that there should be some better provision for the treatment of diseases of the ear than at that time existed in Manchester. Sir James Bardsley, M.D., was the first president. Four rooms in Oxford-street were occupied for the Ear Institution, as it was then called, had very modest beginnings. In 1867 there was a change of quarters to Lower Mosley-street and in 1870 the first grant of £36 was received from the Hospital Sunday Fund. Another change, to 25, Byrom-street, was made in 1877 and there it remained till 1884 when it moved to its present quarters at 23, Byrom-street. The desirability of providing for in-patients was urged by the medical staff for years and the department was established in 1893. During the following year 60 in-patients were received and the number has gradually increased till in 1904–05 271 were admitted. The honorary staff consists of a consulting physician, Dr. H. Simpson; Dr. F. M. Pierce, consulting surgeon; four surgeons, Mr. T. H. Pinder, Dr. F. Cox, Dr. W. Milligan, and Dr. L. Larmuth, while Dr. Herbert Lund is the anæsthetist. The work has steadily increased year by year and has "outgrown the capacity of the existing hospital in Byrom-street." The board of management has long had the question of removal under consideration and has now taken preliminary measures by securing the option of purchasing, at a reasonable price, a piece of land near the new Infirmary in Oxford-road which, by the way, will soon become the principal hospital quarter of Manchester. The scheme is to provide at first 24 beds for in-patients and the building will be so arranged as to allow of enlargement when required. An appeal therefore is made for £15,000, which will cover, it is believed, the cost of the land and the erection of the building, and this public appeal, the first in the history of the hospital that has extended beyond the limited circle of the annual subscribers, may well include a wider public than that of Manchester, for, as a matter of fact, the patients come from all parts of Lancashire and Cheshire, while some hail from Yorkshire, Derbyshire, and others of the northern counties. When the hospital is established in Oxford-road it will be more easily available to the students than at present and no doubt some arrangements as to the teaching of the somewhat neglected subject of ear disease will be made and the clinical material will be more thoroughly utilised.

April 16th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Spread of Sleeping Sickness in Africa: Address by Dr. J. L. Todd.

AT a meeting of the African trade section of the Liverpool Chamber of Commerce Dr. J. L Todd delivered an address on the Danger of the Spread of Sleeping Sickness throughout Africa and the Necessary Measures for its Prevention. Dr. Todd illustrated his lecture by means of maps shown on a screen. He remarked that the distribution of sleeping sickness was probably more universal than was indicated, since the disease was not infrequently present without its nature being recognised. The name of the malady was misleading. It was called sleeping sickness but, as a matter of fact, sleep was far from an important symptom and occurred only in the terminal stage of the disease in a small number of cases. Isolated cases had occasionally been reported from Sierra Leone but in a general way sleeping sickness was said not to exist in Freetown. Captain Grant, R.A.M.C., by employing a perfected means of diagnosis had shown that it occurred there more frequently than had been thought. He had had between 16 and 20 cases under his care during the past few months. A few of these were imported cases and the remainder were natives who had never been out of the colony. Injurious epidemics of sleeping sickness had occurred in the neighbourhood of Sierra Leone. For instance, the region just south of the Gambia, about the Cosamance river, had suffered severely. In view of this fact, they must at least consider the danger of such epidemics making their appearance in Sierra Leone. It was practically impossible to collect trustworthy statistics of sickness and death among the shifting African native populations, and although sleeping sickness was so prevalent it was extremely difficult to make an intelligent estimation of the number of persons who had died from it. He thought, however, that it would not be far from the truth to state that from 400,000 to 500,000 natives had died from this cause in Africa during the past ten years. The fact that the disease was so widespread in Africa was sufficiently disconcerting. What was more alarming was the rapidity with which it was spreading. To indicate this point Dr. Todd took as an example that part of Africa which was worked over by the expedition sent out by the Liverpool School of Tropical Medicine to study sleeping sickness in 1903. He referred to the Congo Free State. It was a large dominion; it covered an area equal to one-third of the United States and therefore conditions found to exist there might safely be used in making generalisations. By means of circles on a map Dr. Todd indicated posts administered by white men in which the first recognised cases of sleeping sickness occurred amongst individuals—soldiers, labourers, and their wives—imported into the district by white men. The history of the spread of the disease in the Congo indicated that each of these posts might become in its turn a centre of infection for the surrounding district. Having pointed out that districts in the Congo and Uganda had been made desolate through the disease, he said that the weight of opinion at the moment was that no person once infected ever recovered. Surely an attempt should be made to protect districts not yet infected. Yet nothing was at present being done by the Colonial Government to protect the natives in British Central Africa from their imminent danger. To arrest, for a time at least, the spread of the disease it was proposed to prevent infected persons from entering non-infected districts. It was easy enough to recognise the person who was infected, for, as a general rule, an enlargement of the glands of the neck without obvious cause in Africans might be taken as a sign of sleeping sickness As a means of combating the disease it was recommended that medical posts of inspection along the most travelled trade routes should be established; and, secondly, the transportation of infected persons at present living in uninfected districts to localities already infected. The application of these measures would be obtained by informing every employer of labour of the significance of enlarged cervical glands. Each of them would be trusted to examine his staff and to send suspected persons towards infected regions to the nearest medical man, where, if it was necessary for diagnosis, the patient would be watched. Dr. Todd concluded his address by emphasising that the enormous spread and great increase of sleeping sickness in the Congo basin during recent years had been in a great measure due to the increase in travel, following the opening up of the country; that cases of trypanosomiasis, though apparently healthy, might be detected by their enlarged glands; and that good results might be expected from the serious application of quarantine measures dependent for their efficiency upon cervical gland palpation. Sir Alfred Jones subsequently entertained the members of the section, including Dr. Todd, to luncheon at the North-Western Hotel.

The Select Vestry and the late Dr. Arthur Blackwood.

MR. William Crosfield, at a meeting of the select vestry held on April 9th, took the opportunity to pay a tribute to the late Dr. Arthur Blackwood whose loss the vestry mourned in common with the widow. Dr. Blackwood's tenure as a medical officer at the Liverpool workhouse covered the period May, 1885, to July, 1889. He had had a career of singularly brilliant promise narrowed by poisoning which he incurred by devotion to duty. For months his life hung in the balance and on partial recovery he was appointed public vaccinator, in which office he gave valuable service until the end. Other members reciprocated Mr. Crosfield's sentiments.

The New Hospital at Fazakerley.

NO inconsiderable interest centres in the opening of the palatial city infectious diseases hospital at Fazakerley which will take place on April 25th. This fine institution has cost the ratepayers of Liverpool a large sum of money and it is claimed that it is one of the finest hospitals of its kind in the kingdom. Mr. J. Utting, the chairman of the port sanitary and hospitals committee, will perform the inaugural ceremony.

April 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Universities Carnegie Trust: Alterations regarding Class Fees.

IN the last report of the executive committee of the Carnegie Trust for the Scottish Universities it was intimated that the regulations as to the payment of class fees would require to be reconsidered because of the demands which had been made upon this department of the trust. The changes determined on have now been published and in so far as they bear upon the Faculty of Medicine they are as follows. Under "degree examinations" it is provided that if a student has failed on two occasions to pass an examination no further fees are to be paid until he has passed. Under "advanced and honours classes" it is provided that the payment of class fees is to be confined to the class attendances required for a curriculum for an ordinary degree. This rule, it may be mentioned, was necessary because of the great number of extra classes which students were taking out and getting the trust to pay the fees. The rule, however, carries an important concession with it—namely, that in the case of students who have already passed the ordinary examination for graduation in the relative subject payment may be made of the fees of the past year 180 cases have been on the register of the Adult Guild—that is, 20 more than in the previous year. Through the generosity of Mrs. Barrow Cadbury, who lent the Guild a cottage at Blackwell for three months, 28 members were sent away for a holiday, with very beneficial results. At present there are about 20 cases capable of work and unable to obtain it, and it is for these especially that the committee appeals to the employers of labour.

The Royal Orthopædic Hospital.

The new out-patient department of the Orthopædic Hospital has been commenced and when completed it will greatly facilitate the work of the hospital but will not provide everything which is required, for the old hospital must be rebuilt. The committee recognises the necessity for rebuilding, or at all events for considerable alterations and extensions but it sees that the present moment is not an opportune one for an appeal to the public, more especially as it does not wish in any way to interfere with the claims of the Queen's Hospital extension appeals. The hospital was founded in a very small way nearly 90 years ago and it is 40 years since it was transferred to its present site. The work has gradually outgrown the capabilities of the building and a few years ago it became essential to acquire temporary premises for the out-patient work. The premises obtained were hired from the corporation and are now required in connexion with the Council House Extension Scheme. Therefore, of necessity, a new out-patient department had to be erected and ground was acquired on favourable terms from the Colmore trustees. When the building is completed it will have a frontage of 22 feet in Great Charles-street and will extend back for 85 feet, and when the old hospital is rebuilt it will be separated from the new out-patient department only by a garden which will be common to the two buildings. On the ground floor in the new out-patient department there will be an out patients' waiting room large enough to accommodate 85 people, a surgeons' room, dressing rooms, and a dispensary. On the first floor will be exercising rooms and massage rooms for males and females; nurses' rooms, an isolation room, and the bath-rooms will be on the second floor. Accommodation for perambulators will be provided in the basement. The foundation-stone of the new department was laid by the Lord Mayor (Councillor A. J. Reynolds) and the ceremony was presided over by the Marquis of Hertford.

Bequests to Local Charities.

Under the will of the late Mrs. Mary Day of Worcester the Worcester Infirmary receives £2000, the Royal Albert Orphan Asylum £500, and the Birmingham Blind Institution £500.—The late Mr. George Martin of Birmingham has bequeathed £100 to each of the following institutions: the General Hospital, the Queen's Hospital, the Midland Eye Hospital, and the General Institution for the Blind.

Police Ambulance.

The recent competition for the Rowland Mason Challenge Cup demonstrated in a very pleasant way the admirable efficiency of the training of the members of our police force in association with ambulance work. The men were keen and active; they knew what was required and how to do it. In the competition they were required not only to treat ordinary accidents but also to rescue insensible persons from a room filled with gas and to extricate others entangled in "live" electric wires and to give efficient first aid to each set of sufferers. The chairman of the watch committee (Mr. Godlee) pointed out that the police gave assistance in about 1000 accidents during the year, therefore it is essential that they should be well trained in ambulance work, and there can be no doubt that competitions such as that for the Rowland Mason Challenge Cup act as useful stimuli.

April 17th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester and Salford Sanitary Association.

THE annual meeting of the Manchester and Salford Sanitary Association was held in the town-hall on March 29th. The report showed a continuance of the steady work in aid of more healthful conditions which has characterised this useful institution. Among other things, an investigation is being carried on as to the possibility of further safeguards for the workers in the manufacture or use of white lead; into the cause of lamp explosions, an inquiry which has brought a diminution of such explosions; into the overcrowding of tramcars, the objectionable and unhealthy character of third-class smoking carriages, &c. Pressure is brought to bear on the city council to extend the provision of cottage baths and washhouses in the poorer parts of the city. It is one of the most civilising and health-saving directions in which the council can expend the ratepayers' money. But baths and washhouses for the poor are hidden away in mean streets; there is no great beauty about them, no architectural splendour or glamour of decoration, no great cost, which latter makes the heart of the average town councillor throb with pride, for he likes to see something that is "an ornament to the city," even if poor women and children have to go unwashed. Even the Local Government Board seems sometimes to be startled at the magnificent borrowings of the corporation. The sum now wanted is £39,715 for new baths and washhouses at Bradford, a working-class suburb. It certainly is a district where public baths and washhouses are needed, for it is said that out of 11,949 dwelling-houses there are only 411 with baths. Swimming-baths, of course, require space and those who want a swim should not begrudge a walk for it, as they cannot be scattered broadcast, but it is quite a different thing for a poor woman with her bundle of soiled clothing and two or three little children who want washing. These conveniences should be near the homes of the people.

Placarding Alcohol.

One of the attractions at the meeting of the Sanitary Association was the presence of Professor G. Sims Woodhead who gave an address on the relationship of alcohol to nutrition. He spoke of the former as lowering the action of the various tissues and organs of the body, of how it blunted the sensations, and among them those of hunger and fatigue, and ended his discourse by saying that the only disease from which teetotalers died more frequently than moderate drinkers was old age. To show, however, that this teaching is not universally received, one need only go as far as Warrington where recently at a meeting of the town council one of the members protested against the issuing of a placard calling attention to the evil effect of the abuse of alcohol on public health. "Alcohol was all right," he said, "if taken regularly," and he drew attention to the opinion of a medical man that it was the best thing in the world for killing microbes. One cannot pretend that the scientific standard of the Warrington town council is very lofty, but when the mayor stated that the people for whom it was meant would be too drunk to see the placard a ray of common sense illumined the mind of an alderman who said that was the best reason for its publication, for those who could read it might tell the others. The placard was founded on the Birmingham model and on the recommendation of the Committee on Physical Deterioration. After all the discussion it was decided to publish the placard.

A New Ear Hospital.

The Manchester Ear Hospital was founded in 1855 by a few gentlemen who were anxious that there should be some better provision for the treatment of diseases of the ear than at that time existed in Manchester. Sir James Bardsley, M.D., was the first president. Four rooms in Oxford-street were occupied for the Ear Institution, as it was then called, had very modest beginnings. In 1867 there was a change of quarters to Lower Mosley-street and in 1870 the first grant of £36 was received from the Hospital Sunday Fund. Another change, to 25, Byrom-street, was made in 1877 and there it remained till 1884 when it moved to its present quarters at 23, Byrom-street. The desirability of providing for in-patients was urged by the medical staff for years and the department was established in 1693. During the following year 60 in-patients were received and the number has gradually increased till in 1904–05 271 were admitted. The honorary staff consists of a consulting physician, Dr. H. Simpson; Dr. F. M. Pierce, consulting surgeon; four surgeons, Mr. T. H. Pinder, Dr. F. Cox, Dr. W. Milligan, and Dr. L. Larmuth, while Dr. Herbert Lund is the anæsthetist. The work has steadily increased year by year and has "outgrown the capacity of the existing hospital in Byrom-street." The board of management has long had the question of removal under consideration and has now taken preliminary measures by securing the option of purchasing, at a reasonable price, a piece of land near the new infirmary in Oxford-road which, by the way, will soon become the principal hospital quarter of Manchester. The scheme is to provide at first 24 beds for in-patients and the building will be so arranged as to allow of enlargement when required. An appeal therefore is made for £15,000, which will cover, it is believed, the cost of the land and the erection of the building, and this public appeal, the first in the history of the hospital that has extended beyond the limited circle of the annual subscribers, may well include a wider public than that of Manchester, for, as a matter of fact, the patients come from all parts of Lancashire and Cheshire, while some hail from Yorkshire, Derbyshire, and others of the northern counties. When the hospital is established in Oxford-road it will be more easily available to the students than at present and no doubt some arrangements as to the teaching of the somewhat neglected subject of ear disease will be made and the clinical material will be more thoroughly utilised.

April 16th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Spread of Sleeping Sickness in Africa: Address by Dr. J. L. Todd.

AT a meeting of the African trade section of the Liverpool Chamber of Commerce Dr. J. L Todd delivered an address on the Danger of the Spread of Sleeping Sickness throughout Africa and the Necessary Measures for its Prevention. Dr. Todd illustrated his lecture by means of maps shown on a screen. He remarked that the distribution of sleeping sickness was probably more universal than was indicated, since the disease was not infrequently present without its nature being recognised. The name of the malady was misleading. It was called sleeping sickness but, as a matter of fact, sleep was far from an important symptom and occurred only in the terminal stage of the disease in a small number of cases. Isolated cases had occasionally been reported from Sierra Leone but in a general way sleeping sickness was said not to exist in Freetown. Captain Grant, R.A.M.C., by employing a perfected means of diagnosis had shown that it occurred there more frequently than had been thought. He had had between 16 and 20 cases under his care during the past few months. A few of these were imported cases and the remainder were natives who had never been out of the colony. Injurious epidemics of sleeping sickness had occurred in the neighbourhood of Sierra Leone. For instance, the region just south of the Gambia, about the Cosamance river, had suffered severely. In view of this fact, they must at least consider the danger of such epidemics making their appearance in Sierra Leone. It was practically impossible to collect trustworthy statistics of sickness and death among the shifting African native populations, and although sleeping sickness was so prevalent it was extremely difficult to make an intelligent estimation of the number of persons who had died from it. He thought, however, that it would not be far from the truth to state that from 400,000 to 500,000 natives had died from this cause in Africa during the past ten years. The fact that the disease was so widespread in Africa was sufficiently disconcerting. What was more alarming was the rapidity with which it was spreading. To indicate this point Dr. Todd took as an example that part of Africa which was worked over by the expedition sent out by the Liverpool School of Tropical Medicine to study sleeping sickness in 1903. He referred to the Congo Free State. It was a large dominion; it covered an area equal to one-third of the United States and therefore conditions found to exist there might safely be used in making generalisations. By means of circles on a map Dr. Todd indicated posts administered by white men in which the first recognised cases of sleeping sickness occurred amongst individuals—soldiers, labourers, and their wives—imported into the district by white men. The history of the spread of the disease in the Congo indicated that each of these posts might become in its turn a centre of infection for the surrounding district. Having pointed out that districts in the Congo and Uganda had been made desolate through the disease, he said that the weight of opinion at the moment was that no person once infected ever recovered. Surely an attempt should be made to protect districts not yet infected. Yet nothing was at present being done by the Colonial Government to protect the natives in British Central Africa from their imminent danger. To arrest, for a time at least, the spread of the disease it was proposed to prevent infected persons from entering non-infected districts. It was easy enough to recognise the person who was infected, for, as a general rule, an enlargement of the glands of the neck without obvious cause in Africans might be taken as a sign of sleeping sickness. As a means of combating the disease it was recommended that medical posts of inspection along the most travelled trade routes should be established; and, secondly, the transportation of infected persons at present living in uninfected districts to localities already infected. The application of these measures would be obtained by informing every employer of labour of the significance of enlarged cervical glands. Each of them would be trusted to examine his staff and to send suspected persons towards infected regions to the nearest medical man, where, if it was necessary for diagnosis, the patient would be watched. Dr. Todd concluded his address by emphasising that the enormous spread and great increase of sleeping sickness in the Congo basin during recent years had been in a great measure due to the increase in travel, following the opening up of the country; that cases of trypanosomiasis, though apparently healthy, might be detected by their enlarged glands; and that good results might be expected from the serious application of quarantine measures dependent for their efficiency upon cervical gland palpation. Sir Alfred Jones subsequently entertained the members of the section, including Dr. Todd, to luncheon at the North-Western Hotel.

The Select Vestry and the late Dr. Arthur Blackwood.

Mr. William Crosfield, at a meeting of the select vestry held on April 9th, took the opportunity to pay a tribute to the late Dr Arthur Blackwood whose loss the vestry mourned in common with the widow. Dr. Blackwood's tenure as a medical officer at the Liverpool workhouse covered the period May, 1885, to July, 1889. He had had a career of singularly brilliant promise narrowed by poisoning which he incurred by devotion to duty. For months his life hung in the balance and on partial recovery he was appointed public vaccinator, in which office he gave valuable service until the end. Other members reciprocated Mr. Crosfield's sentiments.

The New Hospital at Fazakerley.

No inconsiderable interest centres in the opening of the palatial city infectious diseases hospital at Fazakerley which will take place on April 25th. This fine institution has cost the ratepayers of Liverpool a large sum of money and it is claimed that it is one of the finest hospitals of its kind in the kingdom. Mr J. Utting, the chairman of the port sanitary and hospitals committee, will perform the inaugural ceremony.

April 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Universities Carnegie Trust: Alterations regarding Class Fees.

IN the last report of the executive committee of the Carnegie Trust for the Scottish Universities it was intimated that the regulations as to the payment of class fees would require to be reconsidered because of the demands which had been made upon this department of the trust. The changes determined on have now been published and in so far as they bear upon the Faculty of Medicine they are as follows. Under "degree examinations" it is provided that if a student has failed on two occasions to pass an examination no further fees are to be paid until he has passed. Under "advanced and honours classes" it is provided that the payment of class fees is to be confined to the class attendances required for a curriculum for an ordinary degree. This rule, it may be mentioned, was necessary because of the great number of extra classes which students were taking out and getting the trust to pay the fees. The rule, however, carries an important concession with it—namely, that in the case of students who have already passed the ordinary examination for graduation in the relative subject payment may be made of the fees of honours classes or of classes dealing with a distinct extension of the range of work belonging to the obligatory classes. Special application forms for fees of such classes have to be applied for. With regard to attendances in more than one faculty at a time, this will not be allowed unless a satisfactory reason is given. A beneficiary comes under an obligation to refund the fee of any class in which he has failed to obtain a certificate that he has given regular attendance and duly performed the work of the class during the session. No payment will be made of fees of classes in which such certificates are not issued by the teacher. There are classes held in the summer where no qualifying work is demanded and therefore no qualifying certificate is given. It is felt that the trust cannot continue to pay fees without a guarantee. These alterations will have a salutary check upon the marked tendency which the Carnegie money has had in increasing the number of extra classes and in encouraging students to take out such classes from quite insufficient reasons. It is interesting to note the adaptability of the Carnegie Trust to circumstances as they evolve, whilst the universities seem to be tied hand and foot by regulations or ordinances that nothing short of an earthquake seems capable of moving.

University of Edinburgh: Spring Graduation.

At the spring graduation ceremonial at the University of Edinburgh on April 12th the following amongst others received the degree of Doctor of Laws (LL.D.): His Grace the Duke of Bedford; Dr. Alexander Graham Bell, the inventor of the telephone and a native of Edinburgh; His Excellency Wirklicher Geheimrat, Dr. Ernst von Bergmann, professor of surgery and director of the Royal Surgical Clinique in the University of Berlin; Dr. David Christison, son of Sir Robert Christison, and known for his archæological attainments; Professor George Dancer Thane, of University College, London; Mr. A. Taylor Innes, Mr. William Crawthorne Unwin, F.R.S., and Miss Louisa Stevenson.

The Smoke Nuisance.

The smoke problem is asserting itself even in Edinburgh and any light on the solution of it is to be welcomed. Mr. G. H. Gemmell has been reading a paper before the Edinburgh Association of Science and Arts on Coal and What We Get from It, and in the course of his paper he gave facts which have an important bearing on this subject. He said that the ideal system of utilising the energy in coal was to convert it into gas at the pit's mouth and to convey it in pipes to the consumers for direct use in gas engines. All cooking and heating would be done by gas, soot and smoke would disappear, and the tons of sulphuric acid and soot which were discharged into the air would be saved for useful purposes. The value of sulphate of ammonia recovered in gasworks was worth £2,500,000 sterling, while if the ammonia from all the coal consumed was saved it would have a value of £36,000,000. The ideal does not appear to be impracticable and the amount of cleaning that would be saved would be enormous. Electricity for lighting and gas for heating, cooking, and driving machinery would make our cities and our houses clean.

Glasgow Royal Infirmary: Post-Graduate Classes.

The winter term has proved a very successful one, the attendance being highly satisfactory. The course embraced 11 subjects and all the classes were conducted on strictly practical lines so that those who attended had every opportunity of becoming familiar with the various conditions demonstrated. The summer term will begin on April 30th and will include demonstrations on Neuro-Pathology, by Dr. Walter K. Hunter; Gynæcology, by Dr. James K. Kelly and Dr. G. Balfour Marshall; Diseases of the Throat and Nose, by Dr. Robert Fullerton; Clinical Medicine, by Dr. George S. Middleton and Dr. James W. Allan; Clinical Surgery, by Mr. J. Hogarth Pringle and Dr. Peter Paterson; Bacteriology, by Mr. David McCrorie; and Operative Surgery, by Mr. Henry E. Clark.

Beri-beri in the Clyde.

For the second time within the last three months a steamer has arrived in the Clyde with cases of beri-beri on board. In this instance the steamer hailed from Rangoon and the two patients, who were members of the lascar crew, have been removed to Belvidere Hospital.

Death of a Retired Moffat Medical Man.

The death at his residence, Vicarlands, Moffat, is announced of Dr. James Munro, a retired medical practitioner who for over half a century has been one of the most respected and prominent townsmen of Moffat The deceased, who was 80 years of age, was a native of Musselburgh and for 44 years was the leading member of the medical profession in Moffat where he built up a very extensive practice from which he retired 13 years ago. Dr. Munro in 1847 was one of the medical men who was sent to Dumfries to combat the cholera plague in that town.

Munificent Gift for Ross shire.

Seaforth, the chief of the Mackenzies, and Mrs. Stewart Mackenzie of Brahan Castle, have intimated their intention of building, equipping, maintaining, and ultimately endowing a consumption sanatorium in Ross-shire. The object of the sanatorium will be to submit early cases of pulmonary tuberculosis for several months to treatment with a view to arrest the progress of the disease and to effect a cure, and also to educate the patients in the system of open-air treatment so that on leaving they may introduce the principles to their own homes which will become centres of instruction to others. The sanatorium will be open to the inhabitants of Ross and Cromarty, and no charge will be made for the treatment. The site will be on the Brahan estate and the building will be modelled on the type of the one erected by the Brompton Hospital for Consumption at Frimley in Surrey.

April 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Trinity College Commission.

ALL questions about medical matters seem to have given place in Dublin to the discussions and letters which appear daily with reference to the forthcoming commission of inquiry about the affairs of Trinity College. Mr. Bryce's statement in the London *Times* of March 21st satisfied most moderate people, for in it he pointed to the fact that since the last commission on Trinity College there has been a complete revolution in English university life—four commissions of inquiry into the Universities of Oxford and Cambridge and three commissions as regards the universities of Scotland, and that as a result much progress had been made. How Trinity College escaped those commissions of inquiry is not mentioned and the fact leaves an opening to Nationalist Members of Parliament, who will doubtless be very ready to use it. They may fairly ask, Why is it that this college, if it proposes to be a national college, has not a single Roman Catholic on its governing board? and Why are the fees for medical graduates far higher—in this poor country—than those charged in Edinburgh and in Glasgow? There are many other matters that Mr. Bryce's commission should deal with. I trust that it will. As to the attacks on the examinations they seem of no importance.

National Association for the Prevention of Tuberculosis.

The fifth general meeting in connexion with the Dublin branch of the National Association for the Prevention of Tuberculosis was held on April 10th in the Mansion House, Mr. Field, M.P., occupying the chair. Sir Thornley Stoker, President of the Royal Academy of Medicine, in moving the adoption of the report, paid a high tribute to the admirably careful analysis of the death-rate recently issued by the Registrar-General.

The Royal University of Ireland.

Dr. Edward Magennis of Dublin has issued his address as a candidate for the senatorship of the Royal University. He appeals to the electors as a graduate of 20 years' standing and as one who, from the fact that he resides in Dublin, will be able to attend the meetings. He believes that graduates should have full access to the University buildings and grounds. He gives in connexion with the Royal University the following interesting figures: Salaries of Fellows, £8790; remuneration of examiners, £3048; travelling expenses of examiners, £1741; exhibitions, £2414; studentships, £1450; and junior Fellows, £1550; leaving a balance of £12,893, a part of which Dr. Magennis thinks should be applied in developing the utility and resources of the library so that graduates and students could make use of it, while part, he considers, should be given in additional exhibitions and prizes. The election is to take place on April 20th.

Belfast Ophthalmic Institution.

At the annual meeting of the supporters of this hospital held on April 9th it was reported that there were 1518 new extern eye cases and 695 ear and throat patients in 1905, while the intern cases numbered 122, making a total of 2235 patients seen during the year. In the wards there were 103 operations. Financially the year began with a debit balance of £96 and terminated with a sum of £200 on the wrong side of the account. Dr. Cecil E. Shaw read the medical report. Dr. J. Walton Browne said that in his opinon a large number of people in Belfast who were able to pay for medical attendance should not be received into any of the larger charities; they should go into some of the well-equipped private hospitals in the city. Dr. V. G. L. Fielden was thanked for his services as anæsthetist and Professor W. St. Clair Symmers was appointed pathologist to the hospital.

The Consumption Problem in Belfast.

The chairman of the Belfast public health committee having stated at the last public meeting of the city council that any suggestions would be welcomed for improving the health of the city or lessening the death-rate, Professor J. W. Byers has in a published article proposed the adoption in Belfast of the recommendations made in the memorandum recently issued by the Scotch Local Government Board. Professor Byers produces figures to show that when Belfast is contrasted with other cities (such as Manchester, Liverpool, Northampton, Blackburn, Salford, Oldham, Halifax, Brighton, Glasgow, Aberdeen, Dundee, Leith, Paisley, and Greenock) it appears that the death-rate in them from consumption has steadily fallen, while in Belfast for the past 12 years the average death-rate from the same disease has kept at 3·3 per 1000, a ratio immensely higher than in the great English and Scotch cities. Again, while the death-rate from pulmonary tuberculosis in Belfast in 1894 was 3·5, it was last year (1905) 3·1. That is, statistics demonstrate that the death-rate from pulmonary tuberculosis in Belfast was much too high and showed little, if any, sign of falling. In the decennial report (1891–1900) for Ireland the highest death-rate from pulmonary tuberculosis for any of the civic unions was 35·0 per 10,000 in South Dublin union; in Belfast it was 34·1, in Cork 33·6, and in Dublin North 32·1. The rate for the two unions, Dublin North and Dublin South combined, was 33·8—that is, less than in Belfast. During this same ten years no less than 73,349 persons (35,147 males and 38,202 females) succumbed in Ireland to pulmonary tuberculosis between the ages of 15 and 45 years. In Scotland between the periods 1861–65 and 1901–02, the death-rate from pulmonary tuberculosis has fallen 42 per cent., in England between 1861–65 and 1901–03 it has steadily declined 52 per cent , while in Ireland between 1864–65 and 1901–03 it has actually increased 20 per cent. It is to be hoped that the public health authorities will take some real action in Belfast towards stamping out consumption, the death-rate from which in that city is appalling.

Post-Graduate Classes in Belfast.

During the ensuing summer a post-graduate course of practical demonstrations of cases and clinical methods is to be given between July 16th and 28th by the medical staff of the Royal Victoria Hospital, Belfast, at that institution.

Death of Mr. Joseph Graham Burne.

Mr. J. Graham Burne, L.R.C.P. Irel., M.R.C.S. Eng , a well-known medical practitioner of Dublin, died on April 16th at his residence, 38, Westland-row. He was in his sixty-third year, and in addition to being one of the medical officers of the South Dublin union was for many years physician to the City of Dublin prisons. He was much esteemed in the city.

April 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Interesting Results obtained by Hypnotic Suggestion.

AT a meeting of the Society of Hypnology and Psychology held on Feb. 20th two members related the following interesting cases. The first, an account of which was given by M. Damoglou, related to a woman, aged 29 years, who suffered from frequent convulsive crises brought on by any mental disturbance. Some four years ago she completely lost the power of speech, but at the end of 15 days, thanks to hypnotic suggestion, she was able to speak as well as ever. Some months ago, after a convulsive crisis, she again lost the power of speech. M. Damoglou hypnotised her, and while she was in the hypnotic sleep he made her take a placebo (*médicament psychique*), to which the suggestive influence of M. Damoglou added a powerful therapeutical effect. When the woman woke up from her hypnotic trance she could speak perfectly well. The second case was described by Dr. Bonjour and related to the lying-in room. A certain number of cases which had come under his charge had enabled him to conclude that in cases where he was able to put the woman into a state of hypnotism she would be confined on a suggested day on condition that this day was not sooner than eight days before the expected date of her confinement as calculated by the ordinary method and after examination of the patient. He said that the physician who adopted this method of treatment ought not to leave the patient before dilatation of the os had commenced. If, however, the physician could not spare the time for this or if he could not manage to bring about the state of hypnotism he could, however, without being definitely sure of bringing on labour on the suggested day cause that it should commence during the night and that the period of dilatation and expulsion should not take place until the next day.

Abscess of the Breast treated by Iodoacetone.

At a meeting of the Therapeutical Society held on March 28th M. Camescasse stated that M. Danlos by the introduction of iodoacetone had done a great service to the country medical man. Iodoacetone renders superficial inflammatory processes aseptic and even if applied too late to prevent the formation of pus it liquefies the pus and makes the abscess a collection of harmless matter which may be easily evacuated, while the wound heals up very readily. If the abscess occurs in a portion of the body provided with natural evacuant channels, even though such be merely capillary, the medical man need not incise it, for the pus is rendered so liquid that it escapes by the natural channels. Hence, in abscess of the breast all that is necessary is to brush iodoacetone over the gland as long as the breast has not been converted into a mere bag of pus holding skin. However red or hot or swollen the breast may be treatment should begin by brushing it over with iodoacetone. If the abscess is pointing it may be incised at any time, from half an hour afterwards to the following day. But in any case two hours after the application of the iodoacetone a breast-pump should be applied, when the surgeon will easily be able to draw off without any pain a mixture of milk, pus, and serous fluid. The skin will become wrinkled but after 48 hours the breast will have regained its normal consistency. M. Camescasse tried this method with perfect success in the case of a very timid patient who refused any surgical intervention. He has, moreover, met with success in many similar cases.

Hernia of the Appendix in the Sac of a Femoral Hernia.

At a meeting of the Surgical Society held on March 28th Dr. le Clerc gave an account of a case of femoral hernia in a woman, aged 62 years. Two years previously she had noted a swelling in the right groin, which, however, disappeared spontaneously. When Dr. le Clerc saw her she had no rise of temperature but marked signs of abdominal mischief (*péritonisme*); for some days previously she had suffered from diarrhœa and tenesmus. The swelling in the groin was dull to percussion, hard, as thick as a thumb, and about five centimetres long. Dr. le Clerc opened the sac and found within the appendix and its mesentery. The tip of the appendix was ulcerated but not gangrenous. The hernia was therefore complicated with a masked appendicitis, to which was due the diarrhœa. Dr. le Clerc compared this case with a similar one under the care of M. Moty and mentioned that in his opinion the elongated form of the hernia and its firm consistence were typical of an isolated hernia of the appendix.

The Surgical Treatment of Eclampsia.

At a meeting of the Academy of Medicine held on April 3rd M. Chamberland and M. Pousson communicated a paper upon the Surgical Treatment of Eclampsia by means of Nephrotomy. This treatment, which was introduced in America by Edebohls, has been adopted frequently since in France. In eclampsia there almost always coexist nephritis and albuminuria. The kidney substance accordingly swells and becomes too large for its fibrous capsule. It is not certain that this is the cause of the nephritis and the albuminuria but it is certain that Edebohls, who was ingenious and bold enough to lay bare the kidney and to incise its capsule, saw the kidney herniate through the capsular wound and, moreover, noted that with the decompression of the kidney the eclampsia disappeared. The operation has frequently been performed in various hospitals with results which could hardly have been hoped for. It is, however, undoubtedly a serious thing to cut down on to and to incise the kidney in every pregnant woman who shows signs of eclampsia. A milk diet, bleeding, and intravenous injections, together with lumbar puncture, seem to give as good results as incision of the kidney without the risks attaching to the latter operation.

The Treatment of Congenital Syndactyly.

At a meeting of the Society of Surgery held on April 4th M. Quénu showed a child the subject of congenital syndactyly of several fingers in either hand. In this case M. Quénu had tried various methods of plastic operation for the cure of the condition. He tried the method of Zeller and the method of Didot and the Italian method which consists in taking a flap from the skin of the abdomen. In M. Quénu's opinion this last method as a rule is that which gives the best results.

April 16th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Roentgen Rays in Military Surgery.

Dr. Colmer, a surgeon to the German Red Cross Hospital with the Russian forces in Manchuria, writing to the *Münchener Medicinische Wochenschrift*, describes his experiences of radiography in the Russo-Japanese war. He discusses the question where the Roentgen ray apparatus should be placed and what pattern of apparatus is best fitted for use in war. He believes that radiographic apparatus is out of place both in the dressing stations on the battlefield and also in the moveable field hospitals and that it ought to be reserved for the stationary and base hospitals. He says that the employment of radiography is practically impossible on the battlefield and extremely difficult in a moveable field hospital. Radiographic examination in military surgery is used principally to ascertain whether a projectile remains in the body and whether it requires removal. Dr. Colmer explained that a bullet, as a rule, is not to be removed at once but only either when the wound has become contaminated or when the bullet causes severe pains or nervous troubles by pressure on bones or nerves. These effects, however, occur only after the lapse of a period which permits the conveyance of the patient to a stationary hospital. The same is the case in complicated fractures of the bones where the Roentgen rays are useful for an accurate coaptation of the fragments—a work which is undertaken in the stationary hospitals and not on the battlefield or in the moveable field hospitals. According to his experiences in Manchuria there was no case where an immediate radio graphic examination was required in a field hospital. In conclusion he gives some hints relative to the fitting-up of the Roentgen ray room in military hospitals.

The German Congress on Radiography.

The German Roentgen Society was founded in 1905 and held its second meeting on April 2nd in Langenbeck House, Berlin, Professor Eberlein being in the chair. The meeting was attended by about 350 members, including medical and scientific men from Germany and other European countries. After the inaugural business had been disposed of, Herr Walter of Hamburg read a paper on Secondary Cathode Rays. Dr. Lewy-Dorn of Berlin described some methods of ascertaining the energy of the rays necessary for therapeutic purposes and showed an instrument devised by Herr Holzknecht of Vienna consisting of a milliampèremeter, a dosimeter, and a quantimeter. He said, however, that the energy of the rays could not be measured by instruments but must be ascertained empirically in every individual case. Some patients showed a marked reaction to very short exposures, whilst in others no reaction occurred even to very long exposures. Professor Grunmach of Berlin showed instruments for investigating the upper jaw through the mouth and exhibited radiograms of alveolar hyperostosis of the jaw. Dr. Grassner of Cologne showed a case of osteomalacia combined with rachitis. Dr. Schmidt of Berlin showed patients suffering from lupus and cancroids successfully treated by Roentgen rays. Dr. Stegmann said that he had obtained favourable results with the rays in cases of Graves's disease. Dr. Weik of Breslau said that the rays were useful in superficial cancer but had no effect on deep-seated malignant growths.

A Case of Ochronosis.

At a recent meeting of the Berlin Medical Society Dr. Pick showed specimens of a case of ochronosis. The patient, who was a woman, 77 years of age, had suffered from varicose ulcers of the leg to which she had for years applied bandages moistened with a solution of carbolic acid. The diagnosis of ochronosis was made during life because of the brownish-yellow colour of the skin and the cyanotic colour of the ears and hands. She eventually died with symptoms of hyperpyrexia and the necropsy revealed hæmorrhagic encephalitis and endocarditis, together with intense yellow pigmentation, especially of the internal organs. The brownish pigmentation was well marked in the cartilages of the ribs, the intervertebral discs, the trachea, the larynx, the joints, the aorta, and the kidneys. Microscopical examination proved that the pigment was diffused in the tissues which, however, were not altered; it had no characteristic spectroscopic appearance, was free from iron, was soluble in alkaline fluids, and was very like melanin. Dr. Pick was of opinion that the pigment did not come from the blood; it must be regarded as the symptom of an anomaly of metabolism produced perhaps by chronic poisoning with carbolic acid. Ochronosis is a somewhat rare pathological condition, as only eight cases have hitherto been described.

April 16th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Indian Budget and Sanitation.

NOTWITHSTANDING the prosperous state of the Indian finances as shown by the recent Budget and the speeches thereon the Government makes but a single reference to any expenditure on sanitary improvement. This sole item is a contribution to the Calcutta improvement scheme. Lakhs of rupees are to be spent on railways, irrigation, education, and remissions of taxation, in fact, in nearly every branch of Government administration, but with this exception there is not even a reference to sanitary schemes in any one of the numerous speeches made at the recent important meeting of the Imperial Council. It is impossible that all sanitary questions can be left to the local governments or to local bodies and both of these are continually hampered in their efforts for sanitary improvements by want of funds. The improvement of the health of the people and of the unhealthy conditions in which they live is as much an Imperial question as the prevention of famine or the construction of irrigation works and should be more seriously considered by the Central Government. If ever a Health Minister were wanted it is on the India Council. The Central Government is not, however, wholly to blame as the Civil Department actually saved £38,800 on medical and £88,000 on scientific and minor departments by the failure of local governments to expend in full their allotment.

Malarial and Other Fevers in Bombay.

The inadequate way in which sanitary evils are dealt with is exemplified in the recent appointment by the Bombay Government of a committee to investigate the prevalence of malarial and other fevers. The committee consists of the Surgeon-General, the Sanitary Commissioner, the Director of the Plague Laboratory, and one or two other medical men—all having other numerous and regular duties to perform. It is impossible that their report can be exhaustive. Statistics of Bombay city show that the deaths from fevers have varied within wide limits. In 1880 there were returned 7513 deaths; in 1896 there were 8776 deaths; and in 1904 only 2416 deaths. The statistics of Bombay have frequently shown many peculiarities and even in the two months of the current year the excess mortality is not explained by the amount of plague.

Plague Statistics.

The returns of plague throughout India show that though the annual recrudescence is later in appearing it is developing rapidly. For the week ending March 17th there were 13,325 cases with 10,782 deaths, as against 10,655 cases and 9058 deaths for the previous seven days. Bombay returned 1498 deaths; Madras, 42; Bengal, 4278 (a large increase); United Provinces, 3365; Burma, 402; Central Provinces, 879; Mysore, 89; and Kashmere, 77. The disease which may be said to have established itself in Rangoon about this time last year has spread to many districts. Mandalay has been attacked and up to March 24th no less than 1060 deaths have been reported. Plague is stated to be increasing rapidly in both Calcutta and Bombay but the figures are not published. At Bassein, in Burma, more than 3000 people have been inoculated and up to the present not one of them has been attacked although several deaths from plague are occurring every week. It is very unsatisfactory to note that an officer of the Indian Medical Service was prosecuted at the instance of the health officer in Bombay for neglecting and failing to give timely information to the municipal authorities regarding a case of plague and was fined Rs. 30.

Malaria in Bengal.

The Bengal Government has lately appointed a committee to inquire into the drainage of certain areas which are marked by the prevalence of fever. The duties of the committee will be to ascertain in what areas malaria is now prevalent, to investigate the causes of the disease and in particular to determine whether it is due to obstructed drainage, where malaria has been caused by obstructed drainage to decide whether a drainage scheme is practicable, and to prepare a list of practicable drainage schemes. It is to be noted that this committee is to be composed of two civilians and the Sanitary Commissioner. Further comment is unnecessary.

March 31st.

Obituary.

ARTHUR BLACKWOOD, M.D. R.U.I.

BY the death of Dr. Arthur Blackwood, of 100, Bedford-street, Liverpool, who died on April 6th, another martyr in the cause of medicine has gone to his rest. He graduated as Doctor of Medicine at the Royal University of Ireland in 1884 and soon afterwards became resident medical officer at the Liverpool workhouse hospital. Highly intelligent, upright, and honourable in character, he soon endeared himself to all at the hospital. He threw his best energies into the discharge of his duties and those seriously ill claimed his unremitting attention. Every indication gave promise of a useful and distinguished career until one day he was unwittingly inoculated in the finger in the discharge of his duties. His nervous system was rapidly affected and he became partially crippled and was subject to recurring attacks of ill-health for the rest of his life. He struggled manfully against his infirmities and as public vaccinator obtained the grant for excellent work year after year. An attack of pneumonia, acting upon an enfeebled frame, carried him off in a few days to the great regret of his numerous friends. He was about 44 years of age.

WILLIAM WOOD, M.B., C.M. EDIN., F.R.C.P. EDIN.

THE death of Dr. William Wood, of 5, Roxburgh-street and Donisla House, Edinburgh, occurred rather suddenly recently at Bridge of Allan, near Stirling, where he had gone for the benefit of his health. He was the eldest son of Mr. Frankland Wood, Sleights, Yorkshire, where he was born 41 years ago. After graduating in 1890 he started practice in Edinburgh and soon succeeded in building up for himself an extensive connexion. Some years ago he was appointed lecturer on materia medica and therapeutics and practical materia medica at the Edinburgh School of Medicine and was a very popular extramural teacher, attracting yearly a large class of students. He was also the author of "Elements of Practical Materia Medica and Pharmacy" and "Tables of Organic and Inorganic Materia Medica" and found time also for some original research. Though quiet and unassuming he was ever ready as a friend to offer counsel and advice, and his early death is a distinct loss to the profession and the community alike. He leaves a widow and three young children to mourn their loss.

JAMES MARTIN, L.R.C.P., L R.C.S. IREL.

THE death is announced of Mr. James Martin of Newry which took place on April 7th at his residence in High-street. For more than ten years he enjoyed a large practice in Newry and the County Down and was most popular with all classes. He was a director of the Dundalk and Newry Steam Packet Company and was highly esteemed in commercial circles. His death at the age of 42 years after only a few days' illness has caused much sorrow in the town.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. J. Mertznich, who is described as the *doyen* of Cologne medical men, at the age of 97 years.—Dr. T. Gelpke, director of the ophthalmic department of the Carlsruhe Deaconesses Hospital.—Dr. Aubenas, formerly professor of gynæcology in Strasburg, originally under the French and afterwards under the German *régime*.—Dr. Anton Lobmayer, director of the Agram Institute for Obstetrical Instruction, member of Parliament, and author of many popular works on hygienic subjects. He was 61 years of age.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examinations held recently the following candidates passed in the subjects indicated:—

PART I.

Biology.—M. C. Dence, Royal Free Hospital; W. H. Hooton, Leeds; and D. L. Schwabe, Royal Free Hospital.

Chemistry.—A. E. Hempleman, London Hospital; W. H. Hooton, Leeds; E. M. Johnstone, Royal Free Hospital; A. J V Mathews, St. Mary's Hospital; and D. L. Schwabe, Royal Free Hospital.

Materia Medica and Pharmacy.—C. J M. Lawrence, Manchester; and G. W. Simpson, London Hospital.

PART II.

Anatomy.—S. H. Andrews, St. Bartholomew's Hospital; E C. Banks, Manchester; H. R. Ibbotson and M. A. Kenny, Leeds; I. Pulteney, Royal Free Hospital; J. B. Tackaberry, Middlesex Hospital; A. D. Vernon-Taylor, Guy's Hospital; and G. F. Wilson, London Hospital.

Physiology.—S H. Andrews, St. Bartholomew's Hospital; S. S. Brook Guy's Hospital, D. M. Hunt, London Hospital; H. R. Ibbotson, Leeds; W. K. Kershaw, Manchester; H. E. Middlebrooke, London Hospital, I. Pulteney, Royal Free Hospital; J B Tackaberry, Middlesex Hospital; A. D. Vernon-Taylor, Guy's Hospital; and G. F. Wilson, London Hospital.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following students of the above school successfully passed the examination in Tropical Medicine held at the end of the twentieth session, January to April, 1906:—

*Captain S. Anderson, I.M.S.; *Dr. H. E. Arbuckle; *Captain B H. Dutcher, U S. Army; Dr A. G. Eldred (Colonial Service); Dr. H. Kramer, Dr. P H MacDonald (Colonial Service); Dr. B. Moiser (Colonial Service). *Dr G. J. Pirie (Colonial Service); Dr. A. Reid; Dr. W. Rogers (Colonial Service); Dr. W. E. Ruttledge, and Dr. A. L Wykham.

* With distinction.

UNIVERSITY OF ABERDEEN.—On April 5th the following received the degree of M.D.:—

*Lewis Davie Cruickshank, M B., Ch.B, Darlaston; *John Charles Galloway, M A., M B, Ch.B., Banff; Thomas Holt, M.B, C.M., Burnley; George Hall Johnston, M.B., C.M., Wath-upon Dearne (under Old Regulations); Dudley Macdonald Mackenzie, M B, Ch.B, London; Robert Mitchell, M.B, C.M., Doncaster (under Old Regulations); †Wilfred William Pearse, M.B, C M., Hong-Kong (under Old Regulations); Alexander Rose, M.B., C.M., London (under Old Regulations); and Arthur Leslie Sutherland, M.A., M.B, Ch.B, Darwen.

* "Honours" for thesis. † "Highest honours" for thesis.

The following graduated M.B., Ch.B.:—

First-class honours.—John Frederic Gill, B Sc., and William A. H. McKerrow.

Ordinary degrees.—Theodore Chalmers, G F. Dawson, M A., Mary W. Durno, A. D Fraser, A. S. Garden, J. F Grant, S. C. Howard, C. V. Impey, Adam Johnston, W. B. Keith, Arthur Kellas, A. S. Leslie, M A., J. S McConnachie, Joseph M Macdonald, J. G. McGregor, E. K. Mackenzie, N. P. Macphail, Sophie J. Meiklejohn, W. L. Millar, M.A., M. A. Milne, Stanley W. Munro, S. V. van

Niekerk, G. E. A. Petrie, James Raffan, Donald T. Skeen, F. J. Stuart, A. G. Troup, and W. H. Wishart, M.A., B.Sc.

TRINITY COLLEGE, DUBLIN.—At the Final Examination in Medicine held in Hilary term the following candidates were successful:—

Midwifery.—Ralph S. Oldham, John du P. Langrishe, Francis O'B. Ellison, William Hutcheson, Ernest D Caddell, Thomas D. Graham, Thomas King Edwards, Henry D. Drennan, Michael P. Leahy, Alfred C. Elliott, Ernest C. Phelan, Reginald Holmes, Dudley F. Torrens, John Gray, and Francis Casement.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Paul Strassmann, *privat-docent* of Gynæcology, has been granted the title of Professor. Dr. Hermann Triepel of Greifswald has been appointed chief of one of the departments of the Anatomical Institute with the title of Honorary Extraordinary Professor.—*Gratz:* Dr. Arnold Wittek has been recognised as *privat-docent* of Orthopædic Surgery, and Dr. Ernst Moro as *privat-docent* of Children's Diseases.—*Leipsic:* Dr. Alfred Bielschowsky and Dr. Arthur Birch-Hirschfeld, assistants in the Ophthalmic Institute, have been appointed to extraordinary professorships.—*Marburg:* Dr. Arthur Heffter of Berne has been offered the chair of Pharmacology.—*Naples:* Dr. Francesco Mastrosimone has been recognised as *privat-docent* of Surgical Anatomy and Dr. Giuseppe Verrotti as *privat-docent* of Dermatology.—*Vienna:* As Professor von Noorden does not commence the duties of the chair of Medicine until the winter session the lectures will be delivered in the meantime by Dr. Wechsberg, first assistant in the Medical Clinic.—*Warsaw:* Dr. J. Fedorow, professor of Gynæcology, is retiring.

THE INFANTS' HEALTH SOCIETY.—In the third annual report of this society the section dealing with the Infants' Hospital, Denning-road, Hampstead, N.W., states that although the infants admitted during 1905 were pitiable specimens, suffering from diseases of malnutrition, and averaged 50 per cent. below the normal standard of weight, yet the rate of mortality was lower than the mortality rate of infants under one year of age in any of the large towns of the United Kingdom. This clearly shows that with ordinary care the rate of infantile mortality can be very considerably decreased. The Infants' Hospital having been established three years it is felt by the committee of management that the experimental stage has been passed through and that the time has arrived when the hospital should be put upon a permanent basis. With this view the committee has under consideration a proposal to remove the hospital to a more central situation where accommodation may be provided for 40 infants and facilities given for the study of infant treatment which is not to any special extent provided in the leading London hospitals. The address of the secretary is 120, Victoria-street, London, S.W.

SCHOLARSHIPS FOR STUDENTS OF MIDWIFERY.—For the purpose of helping women in need of pecuniary assistance in obtaining a training as midwives the London Council Council is offering a number, not exceeding 12 a year, of scholarships of the value of £25 to suitable candidates from 24 to 40 years of age and ordinarily resident within the County of London. Candidates must satisfy the Council as to their need for assistance in obtaining this training and must enter into a bond with sureties to practise as midwives for two years within the Administrative County of London. They will be required to pass a qualifying examination equivalent to Standard VI. of the elementary school code, and preference may be given to those who produce evidence of a satisfactory training in nursing or who have had practical experience of sick nursing among the poor. The scholarships are to be applied in part payment of the fees for tuition, board, and lodging at one or another of the institutions recognised by the Central Midwives Board and approved by the County Council. The training necessary for the purpose of obtaining a certificate as a midwife at the present day is by no means an inexpensive one and this scheme of the London County Council will no doubt be of great assistance to many deserving women. Undoubtedly there will come a time when the supply of properly trained midwives will fall short of the requirements in most parts of the country and unless some help is forthcoming for those women who wish to take up this branch of nursing and who are unable to afford the expense entailed it will be difficult to meet the demand for trained midwives. This scheme of the London County Council should certainly prove successful and we hope that the county councils may see their way to promulgate similar schemes. It will certainly be money well spent.

THE University of Boston has invited Dr. Schott of Nauheim to lecture there next winter on Diseases of the Heart and their Treatment.

DEATH OF A CENTENARIAN.—The *Times* of April 17th states that Mrs. Isabel Stirling Waddell died on April 16th at Park Cottage, Cathcart, Glasgow, at the age of 104 years. She claimed to be the oldest woman in Scotland and was hale and hearty to the last.

THE UNIVERSITY OF BIRMINGHAM.—The following lectures are announced:—Professor J. T. J. Morrison will deliver a course of three lectures on the Legal and Social Relations of English Medicine, Past and Present, on Thursdays, April 26th, and May 3rd and 10th; a course of three lectures on Medical Ethics will be delivered on Thursdays, June 7th, 14th, and 21st, at 4 o'clock, by Professor R. Saundby; and the Ingleby Lectures for 1906 will be delivered on Thursdays, May 17th and 24th, at 4 o'clock, by Dr. C. E. Purslow, obstetric officer to the Queen's Hospital, Birmingham, who has taken for his subject the Management of a Case of Labour. The lectures will be delivered in the Medical Lecture Theatre and members of the medical profession and medical students are invited to attend.

DONATIONS AND BEQUESTS.—The executors of the late Mrs. M. A. Irwin have paid over to the Metropolitan Convalescent Institution the sum of £2316 19s., being one moiety of the ultimate residue of the testatrix's estate.—By the will of the late Mr. F. J. Horniman the following bequests are made: £1000 to the London Hospital, £1000 to the Sussex County Hospital at Brighton, £1000 to the Croydon General Hospital, £1000 to the Convalescent Home and Hospital at Lower Sydenham, £1000 to St. Mary's Hospital, Paddington, £500 to the Cornwall Convalescent Home for Men at Perranporth, under the management of the Royal Cornwall Infirmary, £1000 to the General Hospital at Truro, £1000 to the South Devon and East Cornwall Hospital, Plymouth, £500 to the Royal Cornwall Infirmary at Truro, and £1000 to the Surgical Aid Society.—The British Home and Hospital for Incurables, Streatham, has received a donation of £605 from "M. E. D."—As a result of the recent appeal to the Stock Exchange on behalf of the rebuilding fund of St. Bartholomew's Hospital the treasurer has received £2000. This is in addition to upwards of £1600 previously subscribed by members of the Stock Exchange for the same purpose.

SOCIETY OF ARTS.—The fourth and last Cantor lecture on Fire and Fire Risks was delivered at the Society of Arts by Professor Vivian B. Lewes on April 2nd. He said that in building construction oak beams were much safer than iron joists or girders in the event of fire breaking out. The high conductivity of metals was a serious drawback from this point of view, because, in the first place, a girder of some length would elongate by heat and tend to cause bulging of walls and, in the second place, thin iron partition doors in warehouses soon became red-hot and ignited material which was on the further side of them from the original fire. It must be more than 300 years since the first attempts were made to render wood non-inflammable, but it is only during the last 10 or 15 years that success has been attained—namely, by the use of a method which saturates the wood from the surface to the core with the fire-proofing material. Many chemicals have been suggested for this purpose, but the most useful of these antipyrenes, as they are now called, are ammonium phosphate and boric acid. In the fire-proofing process the timber is placed in large cylinders from which the air is extracted; the chemical solution is then run in and hydraulic pressure is used to force it into the timber. Rather more than four pounds of chemicals are thereby introduced into each cubic foot of wood. Wood treated in this way possesses all its original properties except that when held in a flame it only smoulders without taking fire. Small jets of flame sometimes make their appearance, due not to the burning of the wood but to the ignition of volatile hydrocarbons produced by the action of the heat. After a short reference to the fire risks connected with the industrial applications of electricity Professor Lewes spoke of the fire-proofing of dress materials by moistening them with boram (a substance which some of our readers may remember on account of a notice of it which appeared in THE LANCET of July 22nd, 1905, p. 264. When fire broke out in a theatre the danger to the audience was not so much from the fire itself as from the panic caused by the sight and smell of smoke. The method of ventilation followed in theatres caused a strong draught of air from the stage to the auditorium, which carried the smell of smoke at once over the whole house. Professor Lewes described a system by which this draught could be greatly reduced.

LITERARY INTELLIGENCE.—A new journal with international aspirations, the *Journal of Abnormal Psychology*, has been started in Boston, U.S.A. It will be published bi-monthly and the editorial management will be under the direction of Dr. Morton Prince, professor of nervous diseases, Tufts College Medical School, with whom are coöperating, among others, Dr. Hugo Münsterberg, professor of psychology, Harvard University; Dr. Charles L. Dana, professor of nervous diseases, Cornell University Medical School, New York; Dr. James J. Putnam, professor of nervous diseases, Harvard Medical School, Boston; Dr. August Hoch, Bloomingdale Asylum, New York; and Dr. Adolf Meyer, director of the Pathological Institute, New York State Hospitals. The journal is meant to serve the interests of both medical science and psychology and is primarily intended for the publication of articles embodying clinical and laboratory researches in abnormal mental phenomena. The field of investigation includes, for instance, such subjects as hysteria, hallucinations, delusions, amnesias, aboulias, aphasias, fixed ideas, obsessions, automatisms, alterations of personality, multiple personality, dissociation of consciousness, subconscious phenomena, relation of the mind to physiological processes, and neurasthenic and psychasthenic states. In discharge of its international functions the journal will contain articles printed in French or German if expressly requested by the author. Communications should be addressed to Dr. Morton Prince, 458, Beacon-street, Boston.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of the above society was held on April 11th, Mr. Alfred Willett, Vice-President, being in the chair. 12 members were present. Since the last court three widows, annuitants of the charity, had died; one had received the sum of £697 in grants, another £372, and the third £651 10*s.*; their husbands had each paid in subscriptions only £52 10*s.*, being the amount representing 25 years' subscriptions, after paying which no further payments were required. The death of one of the directors was reported. An application for relief was received from the widow of a late member and a grant at the rate of £50 *per annum* was recommended. Ten letters had been received since the last court from widows of medical men asking for relief, but this had to be refused owing to the fact that their husbands had *not been members* of the society. Proposals for membership from three medical men were considered and the three were duly elected. The amounts received by the annuitants compared with the aggregate sum of subscriptions are striking evidence of the great advantages of this society which cannot be too *strongly* urged upon the members of the medical profession resident within 20 miles of Charing Cross. Full particulars will be sent on application to the secretary. The annual general meeting will be held on Thursday, May 3rd, at 5 30 P M., at the offices of the society, 11, Chandos-street, Cavendish-square, London, W.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 11TH.

Overcrowding in Cities.

MR. DUNDAS WHITE asked the Secretary for Scotland whether he was aware that according to the recent investigations of Mr. Arthur Sherwell, one-third of the population of Edinburgh and one-half of the populations of Glasgow and Dundee lived under conditions of overcrowding; and what steps, if any, it was proposed to take in the matter.—Mr SINCLAIR answered In spite of inquiry it has not been found possible as yet to obtain any published result of Mr. Sherwell's investigations. If supplied with the data on which the question is based it shall receive my consideration.

Infant Mortality.

MR. DUNDAS WHITE asked the Secretary for Scotland what were the death-rates among infants less than a year old throughout Scotland as a whole, and in Edinburgh, Glasgow, Aberdeen, and Dundee respectively, for the year 1905; whether these death rates were excessive; and what steps, if any, it was proposed to take in the matter.—Mr. SINCLAIR replied: The facts for the four burghs for the year 1905 are as follows—Edinburgh, 124·8; Glasgow, 130 8; Aberdeen, 138·5; and Dundee, 132·5. While these figures could hardly be called excessive as compared with those of other large towns in the United Kingdom there is no doubt that it is possible to reduce them. It is hoped that the steady improvement in sanitation will conduce to this. In addition, steps have been taken in Glasgow and Dundee to deal directly with the question by the appointment of health visitors, lay and medical, and by the establishment of municipal depôts for sterilised milk. Similar measures are under consideration in Edinburgh and Aberdeen.

Coloured Medical Men and the West African Medical Service.

MR. NOLAN asked the Under Secretary of State for the Colonies whether coloured medical men of African origin or descent were excluded from the West African Medical Service; and, if so, upon what grounds—Mr. CHURCHILL answered: Coloured medical men of African origin or descent are ineligible for the West African medical staff but are eligible for certain other public appointments in the Gold Coast, Sierra Leone, and Lagos. The West African medical staff is constituted principally for the purpose of safeguarding the health of the European officials of the colonial governments, and West African native medical officers would not, as a rule, command the confidence of these Europeans.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, 25, Bedford street, Covent Garden, *London*, W.C.

The Real Triumph of Japan the Conquest of the Silent Foe. By Louis Livingston Seaman, M.D., LL.D., late Surgeon-Major, U.S., V.E., Author of "From Tokio Through Manchuria with the Japanese," &c. *Price* 6*s.* net.

ARROWSMITH, J. W., 11, Quay-street, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED, London)

A Soul's Wayfaring A Series of Interviews with "*Romanus*," formerly an Anglican Rector. By "Z," Special Reporter of the Psychological Examiner. Price 3*s.* 6*d.*

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-91, Great Titchfield-street, Oxford-street, London, W.

Modern Surgical Technique in its Relation to Operations and Wound-Treatment. By C. Yelverton Pearson, M D, M.Ch., F.R.C.S., Professor of Surgery, Queen's College, Cork, Fellow and Examiner in Surgery, Royal University of Ireland. Price 10*s.* 6*d.* net.

On Means for the Prolongation of Life Second and enlarged edition of a Lecture delivered before the Royal College of Physicians, on Dec. 3rd, 1903 By Sir Hermann Weber, M.D., F.R.C.P., Consulting Physician to the German Hospital, the National Hospital for Consumption, Ventnor, and the Mount Vernon Hospital for Consumption. Price 2*s.* 6*d.* net.

BOOTHROYD, ELIOT, Leighton House, Fleet-street, London, E.C.

Low's Handbook to the Charities of London, 1906. Seventy-first year of publication. Price 1*s.*

CHURCHILL, J. AND A, 7, Great Marlborough-street, London, W.

An Essay on the General Principles of the Treatment of Spinal Curvatures. By Heather Bigg, F.R.C.S Ed. *Price* 5*s.* net.

The Pharmacopœia of the Evelina Hospital for Sick Children, Southwark. Third edition. Price 1*s* 6*d.*; by post 1*s.* 7*d.*

Rational Organotherapy with Reference to Urosemiology. By Prof. Dr A. von Poehl, Prof. Prince J. von. Tarchanoff, Dr. Alf. von Poehl, Dr. P. Wachs Translated from the Russian text. Vol. I. Price 7*s.* 6*d.* net.

Pathology, General and Special For *Students* of Medicine. By R. Tanner Hewlett, M.D, M.R.C.P., D P.H., Professor of General Pathology and Bacteriology in King's College, London. Price 10*s.* 6*d.* net.

Heath's Manual of Minor Surgery and Bandaging. For the Use of House Surgeons, Dressers, and Junior Practitioners. Thirteenth edition. Revised by Bilton Pollard, F.R.C S, Surgeon to University College Hospital and Teacher of Operative Surgery in University College, London, Member of the Court of Examiners of the Royal College of Surgeons. Price 6*s* net

On Physical Training in Schools. By W. P. Herringham, M D., F.R.C.P., Physician and Lecturer on Forensic Medicine at St. Bartholomew's Hospital. The Influence on National Life of Military Training in Schools By T. C. Horsfall. Two Addresses delivered before the Medical Officers of Schools Association, Feb. 15th, 1906. Issued by the Association. Price 1*s.*

COLLINGRIDGE, W. H. AND L., "*CITY PRESS*" OFFICE, 148 and 149, Aldersgate-street, London, E C.

The City of London Directory for 1906. The 36th Annual Edition. Price 12*s.* 6*d.*

CURRIE, JOHN, 15, Shandon-place, Edinburgh.

Handbook of Surgery. By George Burnside Buchanan, B.A. Cantab, M.B., C.M., F.F.P.S. Glasg, Assistant Surgeon, Western Infirmary, Glasgow, Assistant Surgeon, Glasgow Cancer Hospital, Price 9*s.* net.

DENT, J. M., AND CO., 29 and 30, Bedford street, London, W.C.

The Temple Cyclopædic Primers. Price 1*s* net. Food in Health and Disease. By H. Drinkwater, M.D. With Preface by T. R. Bradshaw, B.A., M.D, F.R.C.P.

F. A. DAVIS COMPANY, 1914–16, *Cherry-street, Philadelphia, U.S.A.*

The Examination of the Function of the Intestines by means of the Test-Diet, its Application in Medical Practice and its Diagnostic and Therapeutic Value. By *Prof. Dr. Adolf Schmidt, Physician-in-chief of the City Hospital, Friedrichstadt in Dresden.* Authorised Translation from the latest German edition by Charles D. Aaron, M.D., Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine. Price $1.00 net.

DORNAN, WILLIAM J., *Philadelphia, U.S.A.*

Transactions of the American Gynecological Society. Vol. XXX. For the Year 1905. (Dr. J. Riddle Goffe, Secretary, 29, West 46th Street, New York City.) *Price not stated.*

Transactions of the American Surgical Association. Vol. XXIII. Edited by Richard H. Harte, M.D., Recorder of the Association. Price not stated.

FISCHER, GUSTAV, Jena.

Mitteilungen aus dem Laboratorium für radiologische Diagnostik und Therapie im k.k.allgemeinen Krankenhaus in Wien. Herausgegeben von Dr. Guido Holzknecht, Privatdozent für medizinische Radiologie an der Universität in Wien. Erster Band, Erstes Heft. Die radiologische Untersuchung des Magens. *Price M.3.*

Geschichte der Geburtshilfe. Von Dr. Heinrich Fasbender, a.o. *Professor* der Medizin an der Universität zu Berlin. Price M.25.

GLAISHER, HENRY J., 57, Wigmore-street, Cavendish-square London, W.

The Anæsthetic Technique for Operations on the Nose and Throat. Based on *Lectures delivered during the Session* 1905–6 at the North-East London Post-Graduate College. By A. de Prenderville, Senior Anæsthetist to the London Throat Hospital, W. *Price 3s. 6d.* net.

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A Handbook of Medical Jurisprudence and Toxicology. For the Use of Students and Practitioners. By William A. Brend, M.A. Cantab., M.B., B.Sc. Lond., of the Inner Temple, Barrister-at-Law. Price not stated.

HEINEMANN, WILLIAM, London.

The Jungle. By Upton Sinclair. Price not stated.

HOLT, HENRY, AND COMPANY, New York.

Problems of Babyhood. Building a Constitution, Forming a Character. By Rachel Kent Fitz, A.M., and George *Wells Fitz*, M.D., Sometime Assistant Professor of Physiology and Hygiene and Medical Visitor, Harvard University. Price not stated.

KELLY AND WALSH, LIMITED, 32, Raffles-place and 194, Orchard-road, Singapore.

A Vocabulary of Malay Medical Terms. By P. N. Gerrard, B.A., B.Ch., B.A.O., M.D. Dub. Univ., D.T.M.H. Univ. *Cantab., District* Surgeon, F.M.S. Medical Service. Printed with the Assistance of the Federated Malay States Government. Price not stated.

LANE, JOHN, The Bodley Head, Vigo-street, London, W.

X-Rays in General Practice. By A. E. Walter, Captain, I.M.S., Superintendent of the X-Ray Institute of India. Price 5s. net.

LAURIE, T. WERNER, *Clifford's Inn, Fleet-street, London, E.C.*

Reminiscences of a Country Politician. By John A. Bridges, J.P., Worcestershire. With Frontispiece Portrait. Price 8s. 6d. net.

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The Practice of Pharmacy. Fourth edition. By Joseph P. Remington, Ph.M., *Phar D., F.C.S., Chairman of the Committee* of Revision of the Pharmacopœia of the United States of America, Professor of Theory and Practice of Pharmacy, and Director of the *Pharmaceutical Laboratory* in the *Philadelphia College of* Pharmacy. Price 25s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, New York, and Bombay, and *CHARITY ORGANISATION SOCIETY, Denison House,* Vauxhall Bridge-road, London, S.W.

The Annual Charities Register and Digest. Fifteenth Edition. By C. S. *Loch, Secretary* to the Council of the *Charity Organisation* Society, London. Price 5s. net.

Plant Response as a Means of Physiological Investigation. By Jagadis Chunder Bose, M.A., D.Sc., Professor, Presidency College, Calcutta. Price 21s.

MARHOLD, CARL, Halle a.S.

Affektivität, Suggestibilität, *Paranoia. Von E. Bleuler, o. Prof.* der *Psychiatrie* in Zürich, Burghölzli. Price M.3.

MASSON ET CIE, 120, Boulevard Saint-Germain, Paris.

Eléments d'Électrothérapie Clinique. Par A. Zimmern, Ancien Interne des *Hôpitaux de Paris. Préface* de *J. Bergonié*, Professeur de Physique Biologique et Electricité Médicale à l'Université de Bordeaux. Price not stated.

Traité de Chirurgie d'Urgence. Par Félix Lejars, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Saint-Antoine, *Membre de la Société de Chirurgie.* Cinquième édition, revue et augmentée. Price Fr.30.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

The Morphology of Normal and *Pathological Blood.* By *George* A. Buckmaster, D.M. *Oxon.*, University College, London, formerly Radcliffe Fellow, Magdalen College, Oxford. Price 10s. 6d. net.

PENTLAND, YOUNG J., *Edinburgh* and *London.*

Handbook of Obstetric Nursing. By Francis W. N. Haultain, M.D., F.R.C.P. Ed., Lecturer on Midwifery and *Diseases of Women*, School of Medicine, Physician for Diseases of Women, Deaconess Hospital; and James Haig Ferguson, M.D., F.R.C.P. Ed., M.R.C.S. Eng., *Lecturer on* Midwifery and Diseases of *Women*, School of Medicine and Jubilee Institute for Nurses. Fifth edition, revised and enlarged. Price 5s.

PHARMACEUTICAL JOURNAL OFFICE, 72, Great Russell-street, London, W.C.

The Pharmacy Student's Note-Book. Edited by John Humphrey. *Price not stated.*

W. B. SAUNDERS COMPANY, 9, Henrietta-street, Covent Garden, London, W.C.

Diseases of the Eye. A Handbook of Ophthalmic Practice for *Students and Practitioners.* By G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University *of* Pennsylvania and Ophthalmic Surgeon to the University Hospital. Fifth edition, thoroughly revised. Price 21s. net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, *Southampton-street*, Strand, London, W.C.

Simple Introductory Lessons in Midwifery. By M. Loane, Author of "Outlines of *Routine in District Nursing.*" *Price 1s. net.*

SHERRATT AND HUGHES, Publishers to the Victoria University of Manchester, 27, St. Ann street, Manchester, and 60, Chandos-street, London, W.C.

Studies in Anatomy from the Anatomical Department of the University of Manchester. Vol. III. Edited by Alfred H. Young, M.B. Edin., F.R.C.S., *Professor of Anatomy.* Price 10s. net.

THACKER, SPINK, AND CO., Calcutta (W. THACKER AND CO., 2, Creed-lane, London, E.C.)

Indian *Toxicology. By F. N. Windsor, Captain*, I.M.S., M.B., M.R.C.S., B.A., B.Sc., Chemical Analyst and Bacteriologist to the Government of Burmah. Price Rs.3.

WILLIAMS AND NORGATE, 14, *Henrietta-street, Covent Garden*, London, W.C. (For the University Press of Liverpool.)

The Thompson Yates and Johnston Laboratories Reports. Vol. VI. (New Series), *Part II., December*, 1905. Trypanosomes; Human Tick Fever; the Ornithodoros moubata (Murray); the Marine Mosquito. Price not stated. Vol. VII. (New Series), Part I., February, 1906. A *New* Pathogenic Louse; Anatomy of Gastrodiscus hominis; Revision of the Sarcopsyllidæ; the Maiotic Process in Mammalia. *Price not stated.*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

JONES, H. TRAVERS, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the Hospital for Epilepsy and Paralysis, Maida Vale, W.

LENNANE, GERALD QUIN, F.R.C.S. Eng., L.R.C.P., has been appointed Medical Officer of Health of the Borough of Battersea.

MACGILVRAY, W. J. HOOKER, L.R.C.P., L.R.C.S., L.M. Edin., L.F.P.S., L.M. Glasg., has been appointed Medical Officer to Fallowfield and Withington *District* of the Royal Rusholme Provident Dispensary, Manchester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARBADOS GENERAL HOSPITAL.—Junior Resident Surgeon. Salary £200 per annum, with quarters.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 with fees.

BIRMINGHAM, UNIVERSITY OF.—Assistant Lecturer on Pathology and Bacteriology. Stipend £250 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £135 per annum, with board, apartments, washing, &c.

BRITISH LYING-IN HOSPITAL.—Physician.

BUXTON, DERBYSHIRE. DEVONSHIRE HOSPITAL.—*Assistant House* Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CENTRAL LONDON THROAT AND EAR HOSPITAL, *Gray's Inn-road*, W.C.—Third Registrar (honorary).

CHARING CROSS HOSPITAL.—Assistant Physician.

CRONSTADT, SEAMEN'S HOSPITAL.—*Resident* Medical Officer. Salary £180 per annum, with lodgings, lights, fuel, and attendance.

DOUGLAS, ISLE OF MAN, NOBLE'S ISLE OF MAN HOSPITAL AND DISPENSARY.—Resident House Surgeon, unmarried. Salary £90 a year, with board and washing.

DUDLEY, GUEST HOSPITAL.—*Assistant* House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL.—*Third* House Surgeon. Salary £50.

ESSEX AND COLCHESTER GENERAL HOSPITAL.—*House* Surgeon. Salary £100 per annum, with board, washing, and residence. Also Honorary Assistant Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Surgeon.

FAZAKERLEY, CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

HALSTEAD UNION.—Medical Officers for Fourth and Fifth Districts. Salary of former £36 per annum and fees and of latter £70 per annum and fees.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Second Assistant Medical Officer. Salary £200 per annum, with board, apartments, and washing.

HEMEL HEMPSTEAD, WEST HERTS INFIRMARY.—House Surgeon and Assistant Secretary, unmarried. Salary £110, with rooms, board, fire, lights, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL ROYAL INFIRMARY.—*Honorary* Assistant Ophthalmic Surgeon. Also House Physician, unmarried. Salary 80 guineas per annum, with board and apartments.

LANCASTER, ROYAL ALBERT ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £125 per annum, with board, apartments, and washing.

LEICESTER INFIRMARY.—Assistant Surgeon.

LISCARD, WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon. Salary £100, with apartments, board, and service.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board and residence.

MANCHESTER, HULME DISPENSARY, Dale-street.—Honorary Surgeon.

MONTROSE ROYAL ASYLUM, Sunnyside, Montrose.—Senior Assistant Medical Officer. Salary £200 per annum, with board, *lodging*, &c.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and laundry.

OXFORD, LITTLEMORE PAUPER LUNATIC ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £120, rising to £150, with rooms and board.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Second *Honorary* Anæsthetist.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary at rate of £50 per annum first six months, £75 per annum after, with board, apartments, washing, and attendance.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM, St. Ann's Heath.—Junior Assistant Medical Officer. Salary £175 per annum, with board, lodging, washing, &c.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon, unmarried. Salary £100 per annum, with residence and board.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Anæsthetist. Also Second Assistant Anæsthetist. Also Casualty Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BURGESS.—On April 14th, at 195, High-street, Oxford-street, Manchester, the wife of Arthur H. Burgess, F.R.C.S., of a son.

COLTART.—On April 15th, at Granville House, Fulham, the wife of Guy H. Coltart, M.B. Lond., M.R.C.S., L.R.C.P., of a son.

MARSHALL.—At 25, Chester-street, Edinburgh, on April 12th, the wife of Major D. G. Marshall, I.M.S. (retired), of a son.

REIDY.—On April 13th, at 314, Commercial-road, E., the wife of J. Reidy, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of a son.

SHELDON.—On April 14th, at Cornwall road, Notting-hill, W., the wife of Walter Sirr Sheldon, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

STEPHENS.—On April 11th, at Seaforth House, Hoylake, Cheshire, the wife of J. W. W. Stephens, M.D. Cantab., of a son.

WARREN.—On Sunday, April 15th, at 15, Lansdowne-crescent, W., the wife of Alfred C. Warren, M.A., M.R.C.S., L.R.C.P., of a son.

WILSON.—On April 12th, at Ripon-road, Harrogate, the wife of H. Douglas Wilson, M.D., of a daughter.

MARRIAGES.

ELLIS—BARNES.—On the 16th April, 1906, at St. Mary's Church, Kippington, near Sevenoaks, Kent, by the Rev. H. Percy Thompson, M.A., assisted by the Rev. H. T. Knight, M.A., Leonard Erasmus Ellis, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond., of Clarendon Park, Leicester, to Evelyn le Hunte, only daughter of J. F. E. Barnes, Esq., C.M.G., M.I.C.E., of Pietermaritzburg, Natal.

SUTHERLAND—SUTHERLAND.—On April 11th, at Trinity Presbyterian Church, Clapham-road, S.W., John Sutherland to Annie Christina Sutherland, M.D.

DEATHS.

HALL.—On Good Friday morning, April 13th, 1906, at "Tresco," Ballards-lane, Finchley, N., Charlotte, wife of James Hall (formerly of West Bromwich) and mother of J. Field Hall, M.B., in her 73rd year.

TIMES.—On April 10th, at Exmouth, Devon, Lawrence Kingston Times, M.R.C.S., late of Manchester-street, London, W., aged 60.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

BOOKS BOUND IN HUMAN SKIN.

IN the museum of the Bristol Royal Infirmary is a book which possesses one particular feature that certainly is not attractive yet seldom fails to arouse interest when attention is drawn to it. The book on superficial examination presents no very striking appearance. In aspect, it is nothing more than a moderately old volume bound in embossed leather and discoloured by age. In the centre of the cover is a representation of a gallows with the words below, "*Cutis vera Johannis Horwood.*" Inside the covers are numerous legal and other documents that tell much about John Horwood. There are copies of statements as to what he did, descriptions of how he met with his death and of what happened to his body after death, even to details of the method by which his skin was tanned. Such an extract as the following gives some insight into the chain of events recorded. "Let him be hanged by the neck until he shall be dead, on Friday the thirteenth day of April instant, and let his body be delivered to Mr. Richard Smith of the city of Bristol, surgeon, to be anatomised." The last clause gives the name of the gentleman responsible for the curious book and shows also that the unfortunate man had been put into his hands by the law. John Horwood was a lad, aged 18 years, who, angry with a girl, had thrown a stone at her, which fractured and indented her skull. Death followed a surgical attempt to raise the depressed bone but although treatment then failed in these days of antiseptic surgery the girl would very probably have recovered. When this fact is borne in mind the following remarks of the surgeon, Mr. Richard Smith, have an especially melancholy interest. On the day of execution he was present in a room in which the prisoner said farewell to some of his friends. The description by the surgeon of what happened after the farewell runs as follows. "He now wrung his hands bitterly and seemed in great distress and said 'O Lord! O Lord!'" Having been bound by the attending constables he was led out, the chaplain reading the burial service. "Almost everyone was greatly affected, many shed tears. I certainly at the moment felt an indescribable sensation of depression and lowness of spirits." The surgeon who, no doubt, had been present at many death-beds and operated in the days before chloroform was used to abolish the pain of operations, and consequently was not only familiar with death but in discharging his daily duties often caused great suffering, watched the scene until the noose was adjusted round the prisoner's neck, and then he says, "My courage, if courage it is to be called, failed me. I perceived that the fatal moment was approaching and was unable to look any longer upon the criminal."

Such were the feelings of the man who afterwards had the unfortunate youth's skin tanned in order to make a book cover. How complex is human nature! Many other aspects of human nature are to be seen when looking through the numerous documents connected with the trial. There is, for example, no waste of words to express sentiment in the following note at the foot of one of the papers by an officer of the Crown. "Mem. Saw him executed accordingly. C.S." Such a brief, business-like record reminds us of the illustrations which the historian Green gives of the way in which Thomas Cromwell "ticked off men's lives" amongst daily "items," even when the life was that of no less a personage than Sir Thomas More. "Item, to know the King's pleasure concerning Master More." In another field we may compare Captain Broke's laconic entry in his diary:—"A.M. Wrt. Lawrence. P.M. Took Chesapeake." There are several other instances of books bound in human skin. One especially notable is in the Athenæum at Bury St. Edmunds and is an account of the trial of William Corder, murderer of Maria Martin. The case is well known as the Red Barn murder and the discovery of the murder was made through a dream. Corder's skin was tanned for the purpose by George Creed, surgeon to the Suffolk General Hospital. A humorous side to the tragedy is given by a tale told by Macready to J. M. Bellew. Corder was hanged on August 11th, 1823, and on the same night Macready took the part of Macbeth at Drury Lane. When Duncan asked, "Is execution done on Cawdor?" a voice from the gallery said, "Yes, sir, he was hung at Bury this morning."

REFEREES IN LIFE ASSURANCE.

To the Editors of THE LANCET.

SIRS,—As I am always interested in matters relating to life assurance I should like to call your attention to a paper lately received from the Gresham Life Assurance Society. I was referred to as a "*friend*" of a widow, about 50 years of age, the secretary adding a line, "*kindly note there is no fee payable for this report.*" I have often been referred to as a *friend* for a non medical report but have never seen such a list of questions put to a layman. In fact, nearly all the questions are medical—except, perhaps, the second, where I am asked if she is of undeniable character and if her statements may be relied upon. Her moral character might be very bad but that is scarcely wanted by most offices. But to ask a layman if a lady has suffered from gravel or stone or rupture, amongst other diseases is, to say the least of it, peculiar. Very often the vicar of a parish is referred to and in this case it would have been hard on our vicar who is unmarried. If you could give space enough to print questions 7 and 10 in full it will show your readers the sort of questions a layman is expected *to* answer whether about a man or a woman. I wrote to the medical officers of the Gresham. They courteously replied and said the *fact of a friend given for* reference being a doctor was a pure accident. This, of course, I was aware of. But they evidently expect these questions about gravel, dropsy, &c., to be generally answered by a layman.

I am, Sirs, yours faithfully,

Highgate, April 10th, 1906. GEORGE FLETCHER, M.D. Cantab.

⁂ *Questions* 7 *and* 10 *to* which our correspondent refers are as follows: "7. Do you know, or have you any reason to believe, that she has been afflicted with gout, asthma, habitual cough, spitting of blood, insanity, apoplexy, dropsy, rupture, fits, gravel, stone, or any other disorder that has a tendency in any way to shorten life? Has she ever received any severe injury? 10. How many brothers and sisters has she living? and what is the state *of* their health? How many brothers and sisters are dead? At what ages *and of* what complaints did they die?" We quite agree with our correspondent that to ask a friend to answer such questions is *extraordinary* and, perhaps, *it* is even more so to expect him to answer them. Medical matters are now discussed in society with great freedom and with a corresponding amount of ignorance but we hardly think that the average layman would be prepared to say whether any given friend was free from, or afflicted with, any or all *of the complaints mentioned* in *Question* 7. *If* life assurance offices are *going to* continue *to* ask *laymen such questions* they might bring a little joy into the matter by adopting Artemus Ward's delightful census paper, one question in which ran, "Have you had the measles and, if so, how many?"—ED. L.

LOCAL GOVERNMENT BOARD ECONOMY.

THE Local Government Board is demurring to the refunding of £3 3s. paid by Mr. B. Neal, medical superintendent of the Wandsworth workhouse infirmary, to Dr. S. Spicer in respect to an operation performed on an inmate. The guardians were notified at *their meeting on April* 12*th* that the Board had inquired why it was necessary to call in "an outside medical practitioner, having regard to the permanent medical staff at the infirmary." It appeared from statements made by guardians that the inmate, a young woman, had suffered from an affection of the nose and *throat and that an operation had been performed* by Dr. Spicer with complete *success*. Indeed, according to a *lady member* of the board of guardians, the surgical operation had produced a most satisfactory effect on the girl's character and temperament, for whereas formerly she was "naughty" and could not keep a place she had now *become a model domestic servant*. In the circumstances the board considered that the specialist's fee of £3 3*s*. was money admirably laid out and with one voice they agreed that Mr. Neal ought to have the amount refunded to him. Canon Curtis, the chairman, said it seemed to him that it was a question of differentiating between the *rich* and the *poor*. *People* in comfortable circumstances had obtained for them the very best advice possible. He did not see why the like should not be done for the poor. It could not be expected that the medical staff of the infirmary would have a specialist's knowledge and *skill*. The *guardians decided to send* particulars of the case to the Local Government Board.

IS BARLEY WATER A SUITABLE FOOD FOR INFANTS?

To the Editors of THE LANCET.

SIRS,—It is probable that infants may digest barley water in some circumstances at any rate. Some years ago I was called to see an infant, six months old, and inquiring *into* the *diet as the mother* had *no milk* I was assured that it had absolutely nothing but barley water since birth; it was pale and thin but not starving as I expected and soon recovered and grew when milk was added to the diet with a little sugar and salt.—I am, Sirs, yours faithfully,

April 14th, 1906. W. M. KNIPE, M.R.C.S. Eng., L.S.A.

To the Editors of THE LANCET.

SIRS,—Having read the letters of "Curia," "M.R.C.S., L.R.C.P." and "Ceres" on the subject of barley water, &c., *instead of plain* water as a diluent for milk *in infant feeding* and considering that barley water, &c., are added to milk very often with the supposed object of aiding the digestion of casein when the real cause of the trouble may be a too high percentage of proteid, I think, therefore, it would be *of* very great interest if your correspondents, "Curia," "M.R.C.S., L.R.C.P." and "*Ceres*," would tell us what percentage of proteid it is their practice to give to normal infants at the following ages: two weeks, one month, three months, and six months.

Also will "Ceres" explain more *fully his meaning* of this sentence, used by *him in his* letter of April 7th, 1906, p. 1013. "It will be found that by this process the casein is prevented from curdling and the caseinogen modified." Is he *referring* to the casein of Halliburton *or* the casein of Hammarsten? It appears as *if* "*Ceres*" assumed that there were *two different* proteids, casein and caseinogen, present in normal milk. But Hammarsten's casein is essentially the same as the caseinogen of Halliburton, except in name, while Halliburton reserves the word casein for the curd produced with rennet.

I am, Sirs, yours faithfully,

LACTO.

April 10th, 1906.

THE WIGAN GUARDIANS AND THE COST OF VACCINATION.

JUDGING from the number of *questions* asked in the House of *Commons* and also from the reports of discussions which take place periodically at the meetings of various boards of guardians, it would appear that many Members of Parliament and many members of boards of guardians are desirous *of* paying *inadequately* for the work performed by public vaccinators. The legislature having *provided for* vaccination with calf lymph, the Local Government Board abolished vaccination stations and provided instead that the public vaccinator should visit the child's house and perform the operation with special precautions and *should look* into the surroundings of the inhabitants of the house, reporting if necessary to the sanitary authority. Much clerical work was added and two or more statutory visits are required. Now we have complaints *from certain guardians of* the great cost of vaccination, but surely the public cannot expect all the additional work *and* care for the nominal fee that was formerly paid for the operation performed at appointed vaccination stations. This, however, is what the Wigan board *of guardians* appears to expect. *Ever since the new* legislation came into force some *member of the board of guardians* has found in the cost of vaccination a reason for airing his eloquence. At a recent meeting a proposition was moved by a new member, by way presumably of justifying his existence on the board, to the following effect: "*That the Wigan guardians are in favour of* early legislation being promoted by the Local Government Board placing vaccination officers entirely under the control of the guardians, and that public vaccination and vaccination officers be paid by salary in lieu of fees, and that the said resolution be sent to the President of the Local Government Board." Dr. M. Benson, who has been a useful member of the board for some time and who is a member of the health committee of the town council, pointed out that the extra work placed on the public *vaccinator* by the *Vaccination Act of* 1898 necessitated an increased fee and urged that the public health authority and not the guardians was the proper authority for carrying out vaccination. After *further discussion the mover of the original motion* altered it, so that it should read as follows: "That the Wigan guardians are in favour of early legislation being promoted by the Local Government Board to transfer vaccination to the public health authorities and that payment of public vaccinators and vaccination officers be by salary in lieu of fees, and that the said resolution be sent to the President *of the Local Government* Board." This was adopted, unanimously.

HOW TO MAKE "HUMANISED" MILK.

To the Editors of THE LANCET.

SIRS,—Will any of your readers kindly give me details of how to make "humanised" milk from ordinary cow's milk? I am not sure of the proper proportions of the added whey to the milk.

I am, Sirs, yours faithfully,

April 17th, 1906. B. (MEDICUS).

COMMUNICATIONS not noticed in our present *issue will receive attention in our next*.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), *West London* (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), *London Throat* (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), *Children*, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University *College* (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), *Charing Cross* (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), *St. Peter's* (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, *Golden-square* (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), *Charing Cross* (3 P.M.), St. George's (1 P.M.), London (2 P.M.), *King's* College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), *London* Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), *Royal* Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (28th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (23rd).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communications:—Mr. W. H. Dolamore: *Two Cysts ? Dentigerous.*—Mr. J. G. Turner: *Effects of Abscesses arising from Temporary Teeth.*—Mr. B. J. M. Phillips: (1) *Hypertrophy of the Gums;* (2) *Dentigerous Cyst.*—Mr. N. G. Bennett *Teeth Devoid of Enamel.*—Mr. W. J. May: *Absorbed Roots.*—Mr. W. S Nowell: *Models showing Delayed Eruption of Temporary Teeth following Rickets*

TUESDAY (24th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.) —8.30 P.M. Paper:—Dr. W. S. Fenwick and Dr. J. P. Parkinson *The Use of an Antistreptococcus Serum in the Treatment of Gonorrhœal Infections and in Certain Cases of Purpura Hæmorrhagica.*

WEDNESDAY (25th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.) —8 P.M. Annual Meeting. Election of *Officers for the ensuing year.* 8.30 P.M. Adjourned Discussion on Syphilis (resumed by the President, Dr. F. J. Smith). The following, amongst others, are expected to take part:—Dr. T. Shennan, Demonstration of Spirochæta Pallida; Dr. G. F. Still, The Disease as met with in Children; Dr. J. H. Sequeira and Dr. M. Dockrell, Syphilitic Affections of the Skin, Dr. W. J. McC. Ettles, General Treatment.

THURSDAY (26th) —HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W) —8.30 P.M. Paper:—Dr. G. W. Hill: *Artificial Aids to Hearing.*—Mr. W. H. C. Greene: *Simple Tumours and their Relation to Malignant Disease.*

FRIDAY (27th).—BRITISH ELECTROTHERAPEUTIC SOCIETY (11, Chandos-street, Cavendish square, W.) —8 P M. Council. 8.30 P.M. Dr. D. Arthur will show the West London Hospital X Ray Table. Paper:—Dr. W. F. Somerville (Glasgow) *The Influence of High Frequency Currents on the Surface Temperature of the Human Body* (illustrated with lantern slides)

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.) —8 P.M. Clinical Evening for the Exhibition of Clinical Cases followed by Discussion. Patients in attendance from 8 P M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—11.30 A.M. Dr. H. Wright: Bacteriology. 2.15 P.M. Medical and Surgical Clinics.

WEDNESDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.) —10 A M. Dr. H. Wright: Clinical Examination of Blood and Urine. 2.15 P.M. Medical and Surgical Clinics. 3 P.M. Mr. Bidwell: Intestinal Surgery.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration —Mr. Stuart-Low: Ear.

THURSDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—11.30 A.M. Dr. H. Wright. Bacteriology. 2.15 P.M. Medical and Surgical Clinics.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—5 P.M. Mr. P. C. Mitchell: The Digestive Tract in Birds and Mammals. (Lecture I.)

FRIDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road. W).—11.30 A.M Dr. H. Wright: Bacteriology. 2 P M. Dr. H. Wright Clinical Examination of Blood and Urine. 2.15 P M. Medical and Surgical Clinics. 3 P.M. Mr. Bidwell Intestinal Surgery

ROYAL SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—5 P.M. Discussion on the Consumptive at Home (opened by Dr. G. A. Heron) Sir R. D. Powell, Dr J. E. Squire, and Dr. F. C. Shrubsall are expected to take part in the discussion.

SATURDAY (28th).—ROYAL SANITARY INSTITUTE.—3 P M. Visit to Mount Vernon Hospital for Consumption at Hampstead.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 19th, 1906.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 13	30 10	W.	...	110	70	50	53	58	Fine
" 14	30 36	N.E.	...	95	58	43	47	51	Fine
" 15	30 60	N.	0·03	97	53	44	45	50	Fine
" 16	30·33	S.W.	...	102	65	38	42	45	Fine
" 17	29·91	S.W.	...	99	62	37	46	50	Fine
" 18	29 78	N.E	0·01	66	49	41	41	43	Overcast
" 19	29·69	N.E	0·02	65	47	39	38	42	Cloudy

During the week marked copies of the following newspapers have been received:—*Liverpool Daily Post, Lancashire Post, Leicester Mercury, West Hants Observer, Glasgow Citizen, Yorkshire Observer, Leicester Advertiser, Portsmouth Independent, Newcastle Chronicle, Cardiff Mail, Bury Times, Manchester Guardian, Glasgow Herald, Leeds and Yorkshire Post, City Press, Surrey Advertiser, Manchester Chronicle, Bristol Press, &c.*

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The Oliver-Sharpey Lectures

ON

THE BEARING OF METABOLISM EXPERIMENTS UPON THE TREATMENT OF SOME DISEASES.

Delivered before the Royal College of Physicians of London on April 3rd and 5th, 1906,

BY EDMUND I. SPRIGGS, M.D. LOND.,
F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE VICTORIA HOSPITAL FOR CHILDREN.

LECTURE I.

Delivered on April 3rd.

INTRODUCTION.

MR. PRESIDENT AND GENTLEMEN,—The true basis on which the knowledge of medicine rests is exact observation. Of all the processes of nature those which are concerned with the maintenance of life are the most illusive to the observer. Problems are presented which make great demands upon the resources of mechanical, physical, and chemical science. The inquiry into the source of the energy of the living body and into the forms in which its energy is manifested has occupied some of the greatest researchers of the last century, and not until recent times have chemical and physical methods been applied to the more difficult task of the measurement of these forces. More than commensurate with the difficulty, however, of the subject has been the brilliancy of the results obtained. The principle of the conservation of energy has been applied to living structures. The various forms of living activity have been not only correlated to their source, the potential energy of the food, but measured. Rübner, Laulanie, and a host of untiring workers have been able to show that in animals there is an absolute balance between the energy taken in as food and that used by the body and given out as heat and the chemical energy in the excreta. In order completely to estimate these metabolic processes as a whole it is necessary, not only to analyse the food and the liquid and the solid excreta, but also to ascertain the amount of oxygen taken in and carbon dioxide and water given out by the lungs. This has been done in man in a limited number of cases. On the other hand, a very large number of metabolism experiments has been carried out in which, although the respiratory analyses are wanting, the food and excreta have been daily examined over long periods, both in health and disease. In this way a mass of facts has accumulated concerning nutrition which cannot fail to be of paramount importance to medicine and the principles upon which diets are constructed have been put upon a sure foundation.

Our present object is to examine the results of metabolism experiments with reference to their bearing upon the treatment of disease. In many cases we shall find nothing that is new. The medical observation of the past and the experiment of the bedside have often suspected the truth and acted upon the suspicion with good results and thus a line of practice has come into use which the exact observation of scientific method has later confirmed. But those who have laboriously carried out accurate experiments have put medical knowledge upon firmer ground by transferring some statements from the list of what we think to the list of what we know. We speak of the science and art of medicine. Such researches confer a great benefit upon the science by relieving it of some of the oscillations of opinion and practice which only too frequently obscure the art. It is probable that I shall say nothing that is not known to my audience. My endeavour is rather to fulfil the design of the distinguished founder and to show some points in which practice is supported by "observation and experiment on man himself" and some perhaps in which it is not.

Since the object of these lectures is specifically to "encourage the application of physiological knowledge to the prevention and cure of disease and the prolongation of life" I shall devote the first lecture to the considerations of the principles upon which our knowledge of the nutrition of the body depends and their general application, and the second to the application of these principles in special investigations upon some pathological conditions. I shall be constantly referring to matter which is daily familiar to every medical man but from the point of view of the experimental evidence only.

PRELIMINARY CONSIDERATIONS.

The food supplies the necessary elements for the structure of the body and also energy for the various bodily activities. The elements are mainly supplied by proteids and salts. The energy is conveyed in different chemical substances, proteid, carbohydrate, and fat. The heat produced when these foods are oxidised in the body is the same as that given off when they are burnt outside the body, and can be ascertained for each foodstuff by combustion in a special calorimeter. The average figures from one gramme of the food substance used in the body have been found to be: for proteid, 4·1 calories; carbohydrates, 4·1; and fat, 9·3. In a metabolism experiment the proteid, carbohydrate, and fat in the fæces must be subtracted from those in the food, the difference being the quantity absorbed from the intestine. The carbohydrate and fat absorbed are wholly oxidised; not so, however, the proteid, for its nitrogen is excreted as urea and other substances which are not fully oxidised and therefore still possess some chemical energy. So that in estimating the total energy supplied by the food to the body we must also subtract this value from that of the absorbed food. The energy value of the urine is most accurately determined by direct estimation of the dry residua in a bomb calorimeter; it can be calculated approximately, however, if the amount of nitrogen in the urine and fæces be known. The oxygen taken in and the carbon dioxide given out by the lungs should also be measured, and since the respiratory quotient thus obtained varies according as to which foodstuff is being oxidised from it we may gain information on this point.

THE CONSERVATION OF ENERGY.

The proof of the law of the conservation of energy has been supplied in the case of man himself by Atwater and his fellow-workers. A chamber was constructed in which a man could remain for days at a time. The walls were fourfold and the spaces containing air were kept at the same temperature as the chamber by means of a thermo-electric apparatus. Thus no heat was lost to or from the chamber through the walls. Tubes led warm dry air to the chamber and the products of respiration were conducted away through a meter which measured the air and automatically took a sample for analysis at regular intervals. The heat produced by the individual was taken up by a kind of inverted radiator in the chamber, through which water flowed continually. The difference between the temperature of this water on leaving the chamber and that on entering it and the volume flowing through being known, the heat given off could be calculated. The evaporated water in the air leaving the chamber was also estimated and the heat lost from the body in converting this from the liquid to the gaseous state could then be also calculated. The food was measured and analysed and its caloric value determined and the urine and fæces were treated in the same way. These experiments were more complete than the previous ones on animals referred to in that the subject could do muscular work in the chamber. The muscular work of the body is of two kinds, internal and external. The internal is that done by the circulatory, respiratory, and visceral muscle. The energy thus set free is like that produced by the activity of the living cells of the body other than muscular, discharged as heat from the body. The external is that which results from external work such as raising a weight. In treatment we can control the external completely; the internal partially. In these experiments the subject worked a stationary bicycle and the bicycle was connected with a dynamo and the electrical current generated carried through a glow-lamp in the chamber and thus converted into heat and measured together with that given off from the body. The amount of work done and converted into heat was also separately measured by registering the electrical current produced. The potential energy of the substances actually oxidised in the body was thus compared with the kinetic energy produced, either as heat when the body was at rest or as heat and external muscular work, which was measured as heat. The experiments, which were 45, lasted several days, usually four, the total number of days observed being 143. The results were a complete confirmation in man of the above mentioned work in animals, both when the subject was at rest or doing work.

We know therefore, not by inference but by direct experiment, that in health the body produces no form of physical energy which is not derived from, and cannot be directly traced to, the chemical energy of the food or its own substance. Although the same complete prolonged experiment has not been done in disease, yet the results of a number of metabolism experiments, including calorimetric observations, furnish us with evidence, if such be wanted, that the same is true in disease. With this foundation to work upon, the carrying out of observations upon nutrition in man becomes a much more simple matter. Such detailed experiments as the above detailed one of Atwater required an extremely costly apparatus and the services of about 12 skilled workers. But since the relation of the food energy to that evolved from the living organism is now definitely known we can calculate from the food consumed the energy which the body uses without making a calorimetric experiment. An ordinary metabolic experiment with a nitrogen balance-sheet will tell us whether nitrogenous food be laid on as proteid tissue and not burnt at once. Also, if respiratory analyses be made in a respiratory chamber, such as is constructed in a number of laboratories, the determination of the respiratory quotient will enable us to conclude whether in the case of tissue other than proteid being used up it be carbohydrate or fat.

In order to form clear ideas as to the management of disordered states of nutrition we must consider for a moment the uses to which the different foodstuffs are put in the body.

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Proteid food contains those elements of which the essential tissues and organs of the body are made, since these consist of protoplasm. It is therefore an essential foodstuff. The manifold activities of living protoplasm are only equalled by the bewildering complexities of the molecular groups composing it, now being daily unravelled by many workers. These groups are separated from each other by digestion and such as are needed for the reconstruction of tissue are built up again into protoplasm, while any excess taken is converted into urea and excreted within a few hours. The work done by the digestive organs in dealing with proteid is, as we shall see, considerable. We have to ask ourselves the question, Can we, in diseased conditions of the digestive system, or in those diseases, such as fevers, where the stomach certainly, and the whole alimentary canal probably, share in a general depression of function, carry out with advantage part of this work beforehand. To answer this we must know first whether the hydrolytic products of digestion of proteid can replace proteid in the diet and supply the needs of the body for nitrogenous tissue; and secondly, whether if this be so, there are any disadvantages attached to their use. The reply to the first question is an affirmative. Albumoses, peptones, and even the groups of fractions obtained by prolonged pancreatic digestion, amido-bodies and their congeners, no longer proteid in nature, have been shown to be capable of keeping the animal body in nitrogenous equilibrium. The albumoses form the major part of some prepared foods, such as somatose. Metabolic experiments show, however, that these substances are far from being desirable, from a dietetic point of view, either in health or disease. True, they are normal products of digestion, but an examination of the intestinal contents shows that under normal conditions they are only present at any one time in minimal quantities. Each step in the disintegration is rapidly succeeded by the next, or by the removal of the product formed through absorption. But when albumoses are given in bulk in the food a considerable quantity is present at one time and irritative qualities are shown to be possessed which cause increased secretion, diarrhœa, and lessened absorption. For instance, Hildebrandt[1] in a man showed by analyses of the fæces that 87 per cent. of proteid given (which contained 23 grammes of nitrogen per day) was absorbed. On replacing about a quarter of this proteid with somatose the absorption sank to 73 per cent. On replacing two-thirds with somatose only 67 per cent. was absorbed. Still less favourable figures have been obtained by Neumann, Salkowski, Bornstein, and Ellinger. Small quantities added to the diets are better used, though by no means so well as ordinary proteid. These substances are, therefore, less acceptable to the alimentary canal than the original proteid. The same is true of sugar as compared with starch, the natural form in which carbohydrate is taken. We may seriously question whether peptonised milk has any advantages as a nutriment. The mixed products of digestion introduced into the stomach call forth gastric juice and ordinary milk calls forth less than any other food. Since the milk is digested normally there seems to be no need to substitute for it a partially digested fluid which will increase the gastric activity unnecessarily without any corresponding benefit to nutrition and with the possible disadvantages mentioned above. Peptonised milk does not clot in the stomach like ordinary milk but the formation of a hard clot can be prevented by dilution or by adding 20 cubic centimetres of 25 per cent. sodium citrate to each litre, or to some degree by thickening it. We must also remember that if albumoses or peptone be present in any considerable quantity their bitter taste becomes noticeable.

FATE OF PROTEID.

When any quantity of proteid has been digested there is an early excretion of urea—i.e., within 24 hours an amount of nitrogen corresponding to that ingested appears in the urine, except in such cases as are laying on flesh. Half of this urea excretion may occur within seven hours.[2] This fact suggests that the proteid taken in has not been built up into body tissue and thus the view has forced itself upon observers and has especially has been urged by Folin, that this rapidly excreted nitrogen is not needed by the body for structural purposes and hence the proteid containing it is hydrolysed and the nitrogen is excreted. The rapidity with which the elimination of nitrogen takes place is explained when we consider the probability that proteids are absorbed not as peptone but as amido-bodies and such simpler derivatives, the hydrolysis referred to above taking place chiefly in the intestine, and that such a proportion of these absorbed substances as is not needed to build up tissue is not reconverted into proteid at all but turned at once, as regards its nitrogenous moiety, into urea and excreted in the urine. The fate of the non-nitrogenous carbon-containing moiety is not definite, but it is no doubt oxidised to furnish energy in the same way as carbohydrate and fat. The hydrolysis of proteid involved in splitting off its nitrogen may take place with very little loss of energy, leaving all the carbonaceous part containing most of the energy of the original proteid available to be set free by oxidation. The suggestion naturally follows that this excess proteid may be replaced by carbohydrate of fat which, while serving equally well for the production of heat and energy by oxidation, would not throw upon the excretory organs the work of eliminating so much nitrogenous material. Experiment bears this out. Hirschfeld, Landergren, Swen, Kumawaga, and others have shown that nitrogen equilibrium can be maintained at a low level of proteid ingestion—e.g., even at 15 grammes of proteid per day for a time if abundance of carbohydrate and fat be taken. More convincing, however, are the observations of Chittenden on different classes of men, scientific workers, soldiers, and athletes, over long periods. These observations proved that about 50 grammes of proteid per day, or half the amount usually recommended, sufficed to keep these individuals in nitrogenous equilibrium and in health, without any increase, indeed with even a diminution in the total caloric value of the food taken. Other observers have fixed from 0·5 to 0·6 gramme of proteid per kilogramme per day as the lower limit advisable, which in a man of 70 kilogrammes is from 35 to 42 grammes. On the one hand, then, the theoretical reasoning from the fact that an excess of nitrogen is so rapidly eliminated from the body and on the other the practical result of experiment, substantially agree that proteid in greater amount is not necessary in health to supply the needs of the body, and increases the work of nitrogenous excretion with no apparent advantage.

Chittenden's results must remind everyone of acquaintances whose consumption of proteid is exceedingly small. They also suggest that many workers in the poorer classes are not so underfed as regards alcohol as they are supposed to be, but that rather are the richer classes overfed. Caspari and Glaessner investigated the metabolism of a married couple who lived upon a vegetable diet. The daily consumption of proteid was represented by from 5·3 to 7·8 grammes of nitrogen. On this was not only nitrogenous equilibrium maintained but some laid on. The absorption of protein was only from 74 to 75 per cent., but that of the other foodstuffs was above normal, for of the total energy of the food from 89 to 92 per cent. was utilised, these figures being as good as those for an ordinary diet. (Atwater: Available, i.e., absorbed, food was: energy, 90 to 92 per cent.; protein, 89 to 92 per cent.; fat, 95 to 96 per cent.; and carbohydrate, 97 to 98 per cent.)

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[1] Zeitschrift für Physiologische Chemie, Band xviii., S. 180, 1893; see Ergebnisse der Physiologie, F. Voit, 1903, p. 693.

[2] Panum, see Speck, one hour in dog, healthy.

[illegible] and [illegible] have recently brought before the Physiological Society evidence that the physiologists working in a London laboratory utilised on the average 9·5 grammes of nitrogen a day. Such large quantities are obviously unnecessary for most individuals. Are they desirable from any point of view?* We must remember that we are dealing with average figures and people of large bulk will require more and it is important to remember this when fixing standards which are to apply to a number of people. Again, none of the physiologists above referred to, though living active lives, were doing continuous muscular work. It is true that Chittenden's subjects were some of them athletes and some soldiers, but they lost weight, and none were doing active continuous muscular work, such as thousands of workmen perform for from eight to 10 hours a day. Although, as we shall see in a few minutes, the energy for muscular work is not supplied from protein when other foods are available, yet the wear and tear of muscular tissues is supplied from protein and we should expect that a fairly liberal supply of it would be an advantage to hard workers. It is to be noted that in Atwater's experiments the subjects were excreting in the urine and therefore metabolising on an average from 15 to 18 grammes of nitrogen in the rest experiments† with a diet worth about 2700 calories and were practically in nitrogenous equilibrium. In the work experiments there was a daily loss of nitrogen in the urine in 19 experiments out of 21 with a similar amount of protein in the food and a caloric intake averaging 4340 calories. This does not prove that they could not have adjusted themselves to a lower standard, but they were evidently not perfectly adjusted to the higher one when doing hard work. It is stated that coolies work continuously through the day on a diet which contains from nine to ten grammes of nitrogen, of which from eight to nine grammes would be absorbed from the bowel. This being so, it is necessary to ascertain whether they do as much work as a European would in the same time and also how their body bulk compares with that of our workmen. Kumagawa used 2475 calories, of which 8·3 per cent. was protein and 83·7 carbohydrate—i.e., 50 grammes protein, of which 45 were used (hard work) = six grammes of nitrogen. With prolonged exercise the caloric value of the diet must be sufficient. We shall see that in some of Atwater's observations as much as 1000 calories of heat were recorded as given off from the body in two hours of working a bicycle hard against resistance. It is possible that more than the minimum requirement of protein is a benefit to a race, but this only long-continued careful observation can decide. The fiercest animals are carnivorous and take an excess of protein according to our standard, but this is perhaps because courage as well as cunning is necessary to enable them to obtain their food. There are certainly herbivorous animals, such as the *horse*, which in capacity, endurance, and strength are not inferior to the carnivora. This question is not one of vegetarianism, for it is possible to take an excess of nitrogen on a vegetable diet, and this is often done.

Whether the optimum amount of protein in a diet be as low as some of the above results may claim there is no doubt that a great many people eat a great deal too much of this form of food and the above results strengthen the hands of the medical man in his crusade against an excessive nitrogenous diet. We have before us definite proof that 50 grammes or two ounces of protein—i.e., 250 grammes or nine ounces of meat—is a sufficient proportion for an ordinary diet in health and in conditions such as chronic granular kidney, arterio-sclerosis, and gout may keep this figure before us as the total quantity to be allowed in the various foodstuffs. In diseases involving the kidneys and digestive organs we can therefore limit the protein to this amount with the full assurance that we are not in any way handicapping the nutrition of the body but, on the contrary, lessening the demands upon the digestive and excretory organs.

Reference may be made to Hopkins's suggestion that protein food is not only required to form protein tissue, but also to furnish certain molecular groupings necessary for the formation of some substances in the body, such as adrenalin and pigments, which exist in small quantities but are of great importance.

FAT AND CARBOHYDRATE.

Fat and carbohydrate are used to supply energy for all the bodily activities, whether manifested as heat or movement. Fat is weight for weight much the more valuable, but both are necessary; of the two carbohydrate is the more necessary (Kumagawa). The total caloric value of the diet must be made up to from 35 to 40 calories per kilogramme—i.e., about 2500 to 3000 calories for an adult who is doing moderate work. Chittenden's men used less but all lost weight, and this part of their work was not so well supported by evidence of other workers as is the reduction of protein.

REST IN BED.

We may now consider the food requirements of those who are not working. The effect of resting in bed was shown clearly by Atwater's experiments; he found that the energy given off by his subject during sleeping hours was nearly half that used when he was up and about in the chamber without doing any serious work; the figures show that the demand is 80 per cent. more in the latter case. This exact measurement is a striking example of the difference between keeping entirely in bed and being up, leaving external muscular work out of the question. In such diseases as anæmia, heart disease, respiratory disease affecting the circulation, fever, or any disease endangering nutrition, and in which the demands made upon the body are not balanced by its resources, it is clear that complete rest in bed is nearly 80 per cent. better than being kept in one room and not in bed. I say nearly 80 per cent. because the subject was not at this time taking food. Patients kept in bed, of course, require food and we shall see that digestion increases the oxidation processes in the body and we shall also see, however, that the work done in digestion varies considerably with the kind of food given and may be kept low. Internal work is done in the body by the circulatory and respiratory muscles, by the striated muscles in preserving their tone, and by the muscles involving the maintenance of the upright position. Zuntz calculated that the respiratory and circulatory work is about from 10 to 20 per cent. of the total calories of the fasting body. Johansson found that by controlling his involuntary muscular activity he could reduce his excretion of carbon dioxide by nearly a third. Speck has shown how quite imperceptible movements greatly increase the oxidation processes. Light increases the metabolism, doubtless through causing muscular movement. How great the total internal work is may be seen by the fact that in animals when the cervical cord is cut or curare is given the oxygen used and the carbon dioxide given off are reduced by one-half. In treatment we can considerably reduce these demands upon the individual by complete rest in the recumbent position. When digestive activity is absent, as in fasting with complete rest, the energy used by the body is at its lowest and we can trace the influence exerted by food.

EFFECT OF FOOD.

Atwater's figures show that in a resting experiment the carbon dioxide excretion was greater on the feeding days by 24 per cent. (33·8 : 27·3). The effect of an individual meal is also very noticeable when the oxygen as well as the carbon dioxide is measured. Both the intake of oxygen and the output of carbon dioxide show a rise of oxidation after taking food. There is much evidence that this is largely due to the muscular and secretory activity of the alimentary canal. The same increase of oxidation takes place in man, as shown by Lehmann and Zuntz in the fasting man Cetti. It also occurs after a saline purgative has been administered. It is, however, probably not merely due to the alimentary canal activity but also to an increase in the general metabolic activity of the body.‡ Nevertheless, such observations may yield useful information as to the degree of oxidation called forth by different foods which, with the above reservation, we may look upon as indicative of digestive work. It is often desirable in disease to feed the patient upon a food which will yield a maximum of energy to the body with a minimum of expenditure in its elaboration. The work of Speck in 1874§ and of Magnus-work in animals, both when the subject was at rest or doing work.

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* See Phys. Econ. in Nutrition, p. [illegible].

† The average in p. [illegible].

‡ Pembrey and S.: Journal of Physiology, vol. [illegible], p. [illegible], 19[illegible].

§ Ergebnisse der Physiologie.

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[2] Pannm, see Speck, one hour in dog, be

In treating such cases with injections of albumin water and sugar we must remember that the patient is very nearly completely fasting. For instance, a patient at present in St. George's Hospital took per day by the rectum 45 ounces of albumin water, each pint of which contains the white of two eggs (26 calories), one teaspoonful of sugar (14 calories), and a teaspoonful of salt. This is given in three doses of 15 ounces each. Each enema is therefore equivalent to about 30 calories and the total energy supplied per day is less than 100 calories, even supposing that the albumin is made use of.

The facts which have been observed upon fasting men and animals show that in such conditions careful attention must be paid to the following points. 1. The weight; the loss must be carefully observed and should not be more than from 1 to 1·5 per cent. of the total per day. As to the total loss, it is said that a man cannot survive a reduction of more than a third in acute hunger. Such a statement is of no clinical value, but any increase in the rate of loss is an indication to supply nourishment. 2. A fall of temperature below the normal limits is of sinister significance. This is a sign which is well known in cases of pathological starvation, such as that of œsophageal stricture. 3. A rise of the temperature above the normal contra-indicates fasting for more than a short time. Fever has been found in animals to lessen considerably the power of resistance to inanition. Nitrogen breakdown is never so little as in fasting without fever. 4. Sufficient fluid must be supplied. The body can only survive the deprivation of water for a short time. Experiments will be quoted later to show the effect of diminishing the water-supply on an ordinary diet. In the condition of which we are treating at present the fluid is usually given in an isotonic solution, such as normal saline, by the rectum. The quantity of urine should be watched and if it fall below the preceding average and become concentrated and the patient feels thirsty more fluid should be administered, if necessary by subcutaneous injection. Less water is necessary than when food is taken.

PARTIAL INANITION.

With partial feeding the period of resistance is much longer; indeed, in such a condition of subacute starvation the body may survive the loss of a much greater proportion of its weight than in complete hunger. The body has been known to become reduced by nearly half. We may class with this condition the treatment of enteric fever with whey. Taking König's analyses of milk, giving the percentage as follows: casein, 3·02; albumin, 0·53; fats, 3·69; and sugar, 4·88; and the heat values of the substances at 5·86 (casein), 5·74 (albumin), 9·23 (fat), and 3·95 (lactose), in one litre we should get a heat value of 740 calories. This is a high figure. The average for cow's milk obtained by direct estimation is about 670 calories (Langstein) per litre. Taking the higher we see that the constituents of the whey, the albumin and the lactose, give 30·42 and 102·76, equal to 223·18 calories in a litre or 1·76 pints, no allowance being made for the loss by imperfect absorption and in urea. So that two pints of whey a day at most mean a furnishing of 255·1 or about 250 calories per day, a nutritive value of a little more than half a pint of milk (212 calories).

NUTRIENT ENEMATA.

Turning now to the metabolism of patients receiving nutrient enemata, it is important to remember that we are dealing with a condition of partial starvation; enemata as usually given contain a fuel value of not more than 200 kilocalories in each enema. We must inquire how much food and of what kind is likely to be absorbed and what relation the quantity bears to the actual needs of the body. A fasting man (Cetti) used up tissue to the extent of about 30 calories per kilogramme.[9] During sleep and with as complete rest as possible the figure may be as low as 25 calories per kilogramme.[10] Even if only a portion of this be supplied it is of great value, as we have seen that a man can survive very much longer if a part of his energy be furnished than in hunger. In such conditions as gastric ulcer, when it may not be desirable to supply food by the mouth, this question is of great importance. We want to know what foodstuffs are made use of when introduced into the rectum and in what quantities. Voit and Bauer and Eichhorst showed that the absorption of albumin is aided by salt. A 1 per cent. saline solution is isotonic with the intestinal wall and forms a suitable medium for the conveyance of foods. Leube[11] carried out experiments in which meat and pancreas were mixed and concluded that a considerable quantity could be taken into the body in this way. Food was also given by the mouth, however. Boyd and Robertson[12] do not recommend this enema, however, as they find the putrefaction in the bowel was excessive. Ewald[13] obtained good results as to the absorption of eggs and other substances such as peptone. His observations were made for the most part on a neurotic woman who was also receiving food by the mouth. Brandenburg[14] concluded that only one-third of the casein of milk was absorbed, and other observers have also reported on this point unfavourably to casein. In 1903 Ehrström[15] investigated this point afresh. He points out that O. Cohnheim has shown that casein can be directly broken down by the erepsin of the intestinal juice without previous peptonisation, while other proteids cannot. On the other hand, it is probably more easily acted upon by bacteria. The following enema was administered two or three times a day to a patient with carcinoma of the cardiac orifice: 50 grammes of dextrose, 150 grammes of warm milk, and 15 grammes of proton (a combination of soda with caseinogen). This has a heat value of 350 calories. No abnormal fermentation was observed. An analysis of the fæces showed that 80 per cent. of the nitrogen was absorbed. He believes that the caseinogen was really broken down—that is, digested—in the bowel. If this substance be introduced into the blood directly it appears in the urine, but an investigation of this point by means of a frequent examination of the urine showed that this did not occur. Bial[16] mentions a research by Zehmisch,[17] which I have not read, in which enemata were given consisting of milk, eggs, sugar, and salt. The proteid and fat were very badly absorbed, the figures for absorption being: 1·5 per cent. proteid, 6 per cent. fat, 67 per cent. sugar, and 31 per cent. salt. These results are exceedingly unfavourable except as regards the sugar. Bial made one-day observations upon himself on two occasions with a 10 per cent. solution of Witte's peptone. He found that 50 per cent. was absorbed and if alcohol were added 66 per cent., and recommends the following enema: peptone, lactose, and absolute alcohol, of each 25 grammes; tincture of opium, ten drops; and water up to 250 cubic centimetres; to be given three times daily. The enema contains no fat.

Boyd and Robertson[18] have recently carried out some very useful observations. Six patients were observed for six days each and different enemata were given, six hourly, no food being taken by the mouth, and the urine and fæces were analysed daily. They found that proteid in the form of milk and eggs is very little absorbed from the bowel. From 30 to 70 grammes were given and from four to 14 were absorbed. In two cases when the white of one egg was given just as much was absorbed, nine and 16 grammes, as in four cases with the whites of two eggs in which four, seven, ten, and 11 grammes were absorbed; therefore no definite relation existed between the amount given and that absorbed. The highest caloric value obtained in the day from proteid was 56 calories.

With fat results much more favourable were obtained than by the above-mentioned workers. We have seen that Zehmisch reported an absorption of 6 per cent. only and Munk and Rosenstein in their observations on a patient with a lymphatic fistula reckoned that about the same proportion was taken up when lipanin was introduced into the rectum. Boyd and Robertson found that from 12 to 51 per cent. of fat was retained from milk, the yelk of egg, and in one case from cod liver oil. The absorption was absolutely greater when more fat was given. In four enemas for the one day of two eggs, 47 grammes of dextrose, ten cubic centimetres of cod liver oil, with saline solution, there were 103 grammes of fat, of which 46 were absorbed, having a heat value of 426 calories. In others 24·35 and, as I have already mentioned, 51 per cent. was absorbed. Such a utilisation of fat in these emulsified forms is of great importance and exerted, as might be expected, a distinct proteid-sparing

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[9] Hammarsten, p. 557.

[10] [illegible] lt, und Johannsen. Hammarsten, p. 58

[11] Deutsches Archiv für Klinische Medicin, 1872, S. 1.

[12] Scottish Medical and Surgical Journal, 1906, vol. xviii., p. 193.

[13] Zeitschrift für Klinische Medicin, 1887, S. 1240.

[14] Archiv für Klinische Medicin, Band lviii., 1896.

[15] Zeitschrift für Klinische Medicin, Band xlix., S. 377, 1903.

[16] Archiv für Verdauungs-krankheiten, 9, 1903.

[17] Inaugural Dissertation, Halle, 10, 1903.

[18] Loc. cit.

Levy (1893) has shown that more demands are made upon the digestive activity with a proteid diet than with any other and also that this increase of internal muscular and secretory work lasts a longer time than with carbohydrate and fat. (May this represent the rapid breakdown of unneeded nitrogen and the conversion of the non-nitrogenous moiety into carbohydrate for future use?) A meal of proteid produces a rise in the respiratory exchange of from 30 to 50 per cent. above that of the fasting animal.[7] Speck and Magnus-Levy found that in man the oxidation after taking meat is 30 per cent. higher than after taking sugar and butter and the increase lasts about four hours. It is also increased with the amount of meat taken. This oxidation begins before there is time for any appreciable amount of absorption to have taken place; it is not caused by injecting food substances into the blood directly (although the excretion of carbon dioxide is increased under this condition) and, as above mentioned, it may be imitated by increasing the activity of the intestine by means of purgatives. Here, again, we have unequivocal evidence in favour of limiting the proteid in the food as far as may be without prejudice to nutrition in diseased states, and especially in alimentary diseases, since it requires more digestive work than other foodstuffs. We can therefore lessen the internal work of the body by (1) rest in bed and avoidance of all excitement and (2) limiting the digestive work caused by allowing too much proteid.

EXERCISE: EXTERNAL WORK.

Exercise involving the performance of external muscular work increases the metabolism of the body very greatly, but not that of the proteid tissues, unless it be excessive, when there is a slight addition of excretion of nitrogen in the urine for a day or two after. Atwater's figures showed that a man during the night gave out 150 calories in two hours, in the same time doing moderate work 500 calories, and when a muscular man was working hard 1000 calories were used in two hours. The actual external work done is about a fifth of the energy discharged or even less. This is rather better than the yield of a steam engine, which gives about 15 per cent. of its total discharge of energy as work and the rest as heat. It is often necessary to prescribe exercise of a moderate nature and it is obvious that a more liberal diet is required, just as in health when muscular work is done. In some diseases, as, for instance, in those of the kidneys, we must know what kind of food must be added. Experiment shows plainly that it is not necessary to add proteid, for when other material is available the body tissues are not used up to furnish muscular energy. During rest one of Atwater's subjects gave out 436 calories; of this 40 were derived from proteid and 296 from fat or carbohydrate, probably from fat. When the same individual did muscular work the discharge of energy rose to 772 calories in the same time. That from proteid, however, only increased from 40 to 60, while 712 were derived from fat. Again, one day 543 calories were discharged as external work; this necessitated an increase in the production of energy of over 2000 calories. Nevertheless, the heat given off from proteid oxidised, as shown by the nitrogen balance, was substantially the same as on a rest day, being 434 calories as against 429. Hence the whole of the 2000 calories was supplied by the oxidation of non-nitrogenous substances.

Of course, if carbohydrate or fat is not available for the production of the energy required in muscular work proteid is used, but the proof that there is any advantage in using proteid is wanting, while we know that extra work devolves upon the alimentary canal and the kidneys in dealing with the excess of nitrogen and it is probable that the proteid first makes the carbohydrate required from its carbonaceous residue. If, then, a man taking exercise does not require a corresponding increase in his nitrogenous food carbohydrate or fat should be freely given. Metabolism experiments here give definite proof that either of these foodstuffs is available. Carbohydrate may have a slight advantage over fat but there is no practical difference. Fat furnishes more energy per gramme given and when we desire to keep the bulk of the food as low as possible it is convenient to use it in abundance, for one gramme of fat is equivalent to more than two of carbohydrate. Again, when carbohydrate is not utilised in the body or only partially utilised, as in diabetes, we are forced to rely mainly upon fat and proteid as energy furnishers. We shall consider in detail the forms in which fat can be given when considering the treatment of diseases of the stomach. Carbohydrate food is almost invariably well digested by the stomach when given in simple form, such as arrowroot. Even in the case of dilated stomach when fermentative changes are especially liable to occur, if lavage be carried out, this food is well borne and has, like fat, the advantage over proteid in gastric ulcer of not stimulating the secretion of gastric juice.

FASTING.

A large number of diseased persons are suffering from partial inanition. There are also cases in which abstinence from food is adopted as a therapeutic means, notably in gastric ulcer. A consideration of the processes of nutrition during fasting will be of help in dealing with such conditions. In the first place we may, I think, start with the premiss that it is *a priori* desirable to feed the patient, except in specially selected cases of those diseases in which the taking of food seriously favours the progress of the morbid condition. Fasting has been advocated as a universal system of dietetics, especially in acute illnesses.[8] But we know that fasting animals are more liable to contract acute infections to which they are exposed and less liable to resist the infectious process when contracted and must conclude that the same applies to man. And this is certainly confirmed by experience. When an individual is obliged to go without food for a longer or shorter time, the point of greatest importance is the quantity of storage material contained in the body, and especially of fat. The body uses as little of its actual—i.e., proteid—tissue as possible. For instance, von Noorden calculated that a man on the second day of fasting oxidised proteid and fat to the value of 1897 calories. Of this, only 10 per cent. came from proteid and the remaining 90 per cent. from fat. Cetti, who was not a fat man, used on the second day of a fast 1695 calories, of which 18 per cent. came from proteid and 82 per cent. from fat. Further, as the fasting days proceed the body uses less energy and the proteid excretion, which is usually about from nine to ten grammes per day, may sink as low as from three to four grammes of nitrogen per day after three weeks. The amount of energy used per kilogramme does not fall much, but as the body loses in weight the total energy used falls regularly. After a certain time the proteid tissues are called upon to supply all the energy needed, for the fat becomes used up or else the body loses the power of oxidising it, for some fat usually remains in the body even after death from starvation. In this case the nitrogen in the urine represents (1) the unavoidable tissue breakdown, probably equivalent to from three to four grammes of nitrogen; (2) the proteid used in producing energy which is increased after the fat is gone; and (3) the proteid broken down to form carbohydrate.

Towards the end of a hunger period, acetone, diacetic acid, and oxybutyric acid appear in quantity in the urine. It is noteworthy that acetone has been regarded as arising from fat, but that it appears in greatest quantity when that substance is present in least amount and when most of the energy is being furnished from the proteid. This, together with the fact that it may arise when abundance of fat is available, suggests rather that a deficiency of carbohydrate is the accompaniment of the formation of this substance. The suggestion of Embden and von Noorden that acetone may arise as a disintegration product of leucin, the remainder of the molecule containing the lactic acid group being synthesised to form carbohydrate, would also accord with this view. We should then suppose that proteid forms the carbohydrate and that acetone is a by-product and the appearance of this substance with diacetic acid in the urine would indicate that carbohydrate is required—e.g., fever and wasting diseases. Then in this one respect nutrition will be placed upon a more normal basis.

Since most of the observations on the metabolism of fasting people have been made when the patients were up we should expect that a fasting period would be much better endured with a subject in bed, for the demands made upon the body are in this case much less as shown above, first because the internal work of the muscular, circulatory, and respiratory system is at a minimum owing to the absence of exertion; secondly, the internal work accompanying digestion is absent; and thirdly, because the oxidation in the muscles necessary to maintain the body temperature is less owing to the body being warmly clothed. This is found to be the case, for fairly nourished women suffering from gastric ulcer have been found to bear easily a fasting period

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[7] Pembrey: Rec. Adv.

[8] THE LANCET, Feb. 3rd, 1906, p. 311.

A PAPER ON

RECENT ADVANCES IN THE SURGERY OF THE BLOOD-VESSELS.

(Read before the Section of Surgery at the Fifteenth International Congress of Medicine at Lisbon, April 19th to 26th, 1906,

BY D'ARCY POWER, M.A., M.B. OXON., F.R.C.S. ENG.,
SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

MANY advances have been made of late years in connexion with the surgery of the blood vessels and to these advances the English-speaking races have contributed their fair share, though fortunately surgery, like science, knows no nationality and every improvement whether in theory or practice becomes at once the property of all mankind.

Surgical knowledge is based upon pathology and pathology itself is but a part of physiology. Improvements in physiology, therefore, acting through pathology, lead to improvements in the science and art of surgery. Physiologists have devoted much attention to the vascular mechanism and they have been so ably assisted by histologists that we have now a tolerably clear idea of the circulation of the blood and of the means by which it is maintained and regulated.

SURGICAL SHOCK AND COLLAPSE.

This knowledge at first sight would appear to be more useful to the physician than to the surgeon but the surgeon has employed it to advantage in elucidating the cause and the rational treatment of collapse and shock, conditions which every surgeon has long viewed with the utmost alarm because they so often put an abrupt end to his best planned operations. You all know the sequence of events as they occur in the surgery when a man is brought in from a railway smash, in the operating theatre during the administration of an anæsthetic, and in the wards when a patient is dying with a gangrenous appendix. Such conditions are bad enough in hospital practice; they are worse when they occur in private; worst of all when they have to be faced at home Need I draw you again the classical picture of a patient in a state of shock?—a picture drawn so well by my old master, Sir William Savory, that I cannot improve upon it:—

> The patient lies in a state of utter prostration. There is a striking pallor of the whole surface, most marked in the face. Even the lips are quite pale and bloodless There is a cold and clammy moisture upon the skin and often distinct drops of sweat upon the brow and forehead The countenance has a dull aspect and appears shrunken and contracted. There is a remarkable languor in the whole expression and especially in the eye which has lost its natural lustre and is partially concealed by the drooping of the upper lid, whilst the pupil is dilated and reacts sluggishly The nostrils too, are usually dilated. The temperature is reduced so that the patient shivers from time to time and complains of cold Muscular debility is extreme—apparent at a glance in the condition of the lips and hands—occasionally even in the relaxation of the sphincters The pulse is generally frequent, sometimes irregular, always very feeble, perhaps quite imperceptible. In this latter case, although the ear may detect the fluttering action of the heart, the pulse does not reach the wrist. The respiratory movements are short and feeble or panting and gasping, "wanting the relief of sighs," sometimes imperceptible, although in the majority of cases some action of the diaphragm may be detected by careful observation Vertigo with dimness of vision supervenes As a rule there is not complete insensibility, but the patient is drowsy and bewildered, yet conscious and often rational when roused. Blissfully unconscious of his perilous condition he dreams away his end, or roused by the fruitless activity of his attendants he may ask, "Is this death?" Sometimes the intellect is singularly clear and the senses are perfect, the hearing occasionally even peculiarly acute, whilst in the less extreme cases there are often nausea and vomiting with hiccough.

Starting with such a picture in his mind Crile[1] has carried out an important and elaborate research upon the blood pressure in surgery and has thrown his results into the form of an essay which gained him the Cartwright prize for 1903 The research, he says, was undertaken to study the cause of shock and collapse as it occurs in surgical practice and to obtain, if possible, some rational treatment for a condition which is of no rare occurrence in the practice of every operating surgeon.

The essential phenomenon in shock is a fall of blood pressure caused by exhaustion rather than by structural lesions and the fall is due to the blood accumulating in the veins and especially in the larger venous trunks. In shock, therefore, there is a condition of intravenous hæmorrhage. When the fall of pressure occurs gradually the patient passes into a condition of shock; if it occurs suddenly he is said to be in a state of collapse and a similar condition is produced by actual loss of blood as well as by other causes.

The tradition of different schools varies very greatly in the treatment of the shock and collapse following operations One surgeon administers alcohol as a routine method after every severe operation, another gives it before as well as after the operation, whilst a third never gives it at all. One orders digitalis, another strychnine, others strychnine and its antagonist nitroglycerine at the same time; whilst others, again, give hypodermic injections of ether even when the patient has been anæsthetised by ether. Atropin is injected hypodermically because the cutaneous circulation is thereby increased and in shock the patient has a cold skin. Others give caffein because it stimulates the heart. Ergotin is a favourite remedy in France, strychnine in Germany. We in England follow the German rather than the French plan and employ strychnine largely. But if the truth must be spoken and we examine the results obtained by those who stimulate their patients habitually and compare them with those obtained by surgeons who only resort to stimulation occasionally, it seems as though the better results were gained by the surgeons who reserve their remedies for really urgent cases. The treatment of surgical shock and collapse therefore is clearly empirical at the present time and Crile has done a useful work in undertaking an investigation upon the blood pressure in surgery with a view to ascertain by experiment the conditions under which it varies, for until these conditions are known there can be no rational treatment.

The questions to be answered in connexion with shock and collapse are the following: To what is the fall of blood pressure due? Is it caused by (*a*) exhaustion of the blood-vessels, *i.e.*, the anatomical periphery; (*b*) exhaustion of the heart; (*c*) of the centres, vaso-motor, cardiac, or respiratory, and if it is due to failure of these centres is it the result of an exhaustion or failure of action on their part or is it caused by the blood plasma passing through the walls of the blood-vessels? (*d*) if it is due to an exhaustion of one or more of these centres or organs would stimulation relieve the exhaustion or would further exhaustion follow the stimulation? In other words, is it better to lash the tired horse or to rest it? If only some of the centres or organs are exhausted would it be advantageous to stimulate those which are not affected while the exhausted ones are allowed to rest? Would it be advantageous to restore the blood pressure in such cases by harmless mechanical means if it were found possible to do so? Are not the centres governing the circulation automatic in their action and are they not all stimulated automatically? Moreover, are they not all stimulated to the point of exhaustion before the final circulatory breakdown known to us as collapse or shock? Is it better to depend upon drug stimulation of these exhausted centres or should reliance be placed upon their automatic stimulation?

Crile submitted these problems to the test of experiment and as far as possible subjected his experimental results to a clinical comparison in his surgical wards. He arrived by these means at results useful to every surgeon, for they deal with the various remedies that we are accustomed to employ in the treatment of the more severe cases of shock and collapse. He has summed up the results of his observations in the following words. In many cases the control of the blood pressure is the control of life itself. Surgical shock is an exhaustion of the vaso motor centre; neither the heart muscle, nor the cardiac centres, nor the respiratory centre are other than secondarily involved. Collapse is due to a suspension of the function of the cardiac or of the vaso-motor mechanism or to hæmorrhage. In shock therapeutic doses of strychnine are inert; physiological doses are dangerous or fatal. When it does not cause death increased exhaustion follows the administration of strychnine. It is impossible to make any distinction between external stimulation of the vaso-motor centre—such as is produced by injuries and operation—and internal stimulation by such stimulants as strychnine. Each in sufficient amount produces shock and each with equal logic might be used to treat the shock produced by the other. Stimulants of the vaso-motor centres are not contra indicated in shock and collapse. But in shock cardiac stimulants have only a limited range of usefulness, whilst their action may prove to be injurious. Stimulants may be useful in collapse because the centres are not exhausted. Saline infusions are not very useful in shock but they may be very effective in the treatment of collapse. The blood only tolerates a limited dilution with saline solution and action, much less nitrogen being passed in the urine. Hausmann has recently found that of a 15 per cent. solution of grape sugar 60·3 per cent. is absorbed in two hours, of cane sugar 51·5 per cent. at most, and of milk sugar 37·5 per cent. 10 per cent. alcohol delays absorption but its caloric value more than makes up. The sugar absorption is helped by 1 per cent. saline solution.

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[1] *Blood Pressure in Surgery* an Experimental and Clinical Research By George W. Crile, A.M., M.D., Professor of Clinical Surgery, Western Reserve Medical College, Cleveland. 8vo

We see therefore that sugar is well taken up from the rectum. To exclude the possibility of its being simply broken down by bacterial action these observers applied to it an experiment used by Ehrström in the case of caseinogen. Dextrose was digested with fæces in an incubator and it was found that less than 1 per cent. is broken down in four hours. From the enemata 37 to 81 grammes of dextrose were taken up in the day, being from 150 to 330 calories in fuel value. No glycosuria was observed.

It follows from the consideration of the above figures that the feeding was effective. They recommend an enema of the yelks of two eggs, 30 grammes of dextrose (pure), and pancreatised milk to 300 cubic centimetres (ten ounces). In the experiments the caloric value actually taken up varied from 240 to 645 calories in a day. The average was 389. The enema here recommended contains 300 calories. Therefore four in the day contain 1200, and probably about 500 will be absorbed. The authors lay stress on the smallness of this value; and point out that Umber has shown that gastric juice is secreted into the stomach during rectal feeding, and that this would be prejudicial to an ulcer.

I think nevertheless that these results are encouraging to this method of feeding. 500 calories is nearly half the need of a woman of 50 kilogrammes lying in bed. At 25 calories per kilogramme she would require 1250 calories, and it is obviously very much better to supply 500 calories if the patient is in any danger of malnutrition than that she should break down more tissue still to furnish it herself. For instance, if she excreted ten grammes of nitrogen in the urine this means that 62·5 grammes of proteid are broken down, or 330 of actual flesh, and this would furnish 250 calories of the 1250 and the remaining 1000 calories would need the oxidation of 107 grammes of fat—that is, about 150 grammes of fatty tissue. But the 500 calories absorbed from the rectum would save a good proportion of the fat breakdown and although very little proteid is absorbed the other foodstuffs will still spare the tissue proteid, as, indeed, the figures in the above research show. Thus, although we must be perfectly clear that rectal feeding cannot supply the caloric need of the body, even under the most favourable conditions, it is shown to be a means by which we can introduce a valuable amount of food. The prospect of supplying any useful quantity of proteid is regarded by Boyd and Robertson as slight and indeed the quantity taken up was very small. But Ehrström's results with milk and proton and Bial's with peptone are suggestive that more success might be attained with those substances. Since 10 or even 20 per cent. of dextrose is taken up it is clear that it is not necessary under suitable conditions to have a fluid isotonic with the rectum, but the more nearly this is attained the more likely are the enemata to be borne for long periods. Dextrose, unless pure, contains irritating substances. The rectum must always be washed out daily and it is very important that sufficient fluid be given. Experience is showing that enemata of ten or 15 ounces can be retained if slowly given and they have the great advantage of needing less frequent administration. Cannon[19] showed that in the cat an anti-peristalsis of the large intestine is a normal occurrence and is also set up when a nutrient enema is passed into the rectum carrying the material to the cæcum, and may force fluid through the ileo cæcal valve, but only when sufficient bulk was present. There is much more chance of the contents of an enema reaching the upper part of the large intestine and even the small if a good quantity be given.

FEEDING AFTER INANITION.

Under normal conditions if the food taken into the body be in excess of that required there is a storage of energy in the form of fat. Although carnivora easily lay on proteid tissue this is not the case with man. In special circumstances, such as the provision of an excessive diet, enormously rich in proteid, given for short periods only, nitrogenous tissue may be laid on.[20] But, generally speaking, this is not so, except when the muscular tissue is growing in bulk under the influence of constant exercise. After a period of fasting, however, the condition is different and proteid is laid on rather than fat, just as during the fast fat is broken down rather than proteid—that is to say, when the body is from any cause below its weight or increasing in weight proteid is laid on. Von Noorden points out that in such circumstances the body will retain proteid from a diet which in the well nourished would lead to a loss of nitrogen. The retention of nitrogen is not a function of the amount of food but of the body cell. We may recall that the same is true of the use of oxygen by the body. The supply of oxygen in the lungs is in almost all cases sufficient, and increasing it does not increase the oxidation processes, since these depend solely upon the needs of the tissues. A girl who had fasted owing to an œsophageal stricture retained a quarter of the nitrogen given.[21] Beibtreu's hysterical woman[22] laid on over four grammes of nitrogen per day for 14 days on a diet containing 30 grammes. The observations of Popov[23] also showed how well nitrogenous tissue can be laid on and nutrition improved. Dr. W. Hale White and myself investigated the metabolism of a woman whose weight had fallen to 39 kilogrammes. She was confined to one room for eight weeks, massaged, and fed on an exceedingly liberal and varied diet. She illustrated well the amount of food which can be taken in such circumstances. Its energy value per day was over 5000 and more than 110 calories per kilogramme. After the first week from 35 to 46 grammes of nitrogen were taken daily and between 200 and 300 grammes of fat. The quantities of fat and proteid were thus approximately equal, the average proteid intake being 244 grammes and the fat intake 253 grammes. Abundant carbohydrate was also supplied in the form of bread, potatoes, other vegetables, puddings, milk, &c. The absorption was astonishingly complete, 96 per cent. of both nitrogen and fat being utilised. There was no diarrhœa, vomiting, or disturbance of digestion. A large amount of the nitrogen was retained and the case showed with what avidity the tissues retain this kind of food in inanition, as has been demonstrated by other workers. The weight increased from 39 to 52 kilogrammes—that is, she added a third of her original weight—in the eight weeks.

After fevers the same is true. Abramovitch in 1888, for instance, in a case of pneumonia after the fever had come to an end observed for four days, found that a man, aged 22 years, weighing 54 kilogrammes, retained 7·2 grammes of nitrogen per day. This is equivalent to 238 grammes, or about half a pound of proteid tissue a day. The diet contained 550 grammes of bread, 150 grammes of meat, and about a litre of soup. This was not excessive in heat value; the bread and meat would come to about 1650 calories. We cannot make a calculation for the soup and bouillon, but these would not add very much fuel value. Other observers since have confirmed these results in convalescence after acute illness.

The factors favouring the putting on of weight, including proteid and fat, after inanition from any cause are: (1) feeding at frequent regular intervals; (2) a varied diet; and (3) the removal of all causes of loss of energy—that is to say, all sources of unrest. From observations upon animals it is probable that flesh would be still better deposited if short fasting periods were intervened from time to time.[24] Even on an excessive diet, no fear need be entertained of producing any harmful degree of purin bodies in the organism if food be chosen with this object in view.[25]

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[19] American Journal of Physiology.

[20] Luthjeu: Berger, Deutsches Archiv für Klinische Medicin, 1904, Band lxxi., S. 278.

[21] Müller, von Noorden, p. 155.

[22] Pflüger's Archiv, Band xli., 1887.

[23] D. M.E., p. 260.

[24] Pembrey and Spriggs, Journal of Physiology, vol. xxxi., p. 335, 1904.

[25] Spriggs, Guy's Hospital Reports, vol. lvii., 1902.

LEEDS PUBLIC DISPENSARY: THE POST-GRADUATE COURSE.—A post-graduate course will be opened at this dispensary on April 30th next with an address by Mr. Jonathan Hutchinson, F.R.S. The clinical demonstrations will commence on May 8th. Further particulars will be supplied by the honorary secretary.

DAWLISH COTTAGE HOSPITAL.—Dawlish Cottage Hospital, which has recently been enlarged and rendered more efficient, at a cost of £1200, through the generosity of Mrs. Nosworthy, was opened on April 18th in the presence of a large gathering. The ceremony was performed by Mrs. Nosworthy who in the course of a short speech promised to provide a new operating table for the institution at a cost of about £40.

abundant therefore is the amount of laminated clot which it contains. Dr. Walsham also draws attention to the fact that the heart is often found to lie nearly transversely in the chest when there is an aortic aneurysm, apparently because it has been pressed into this position by the superincumbent weight of the aneurysmal sac.

An improved knowledge of pathology has shown the method by which nature attempts to cure an aneurysm and by following the clue thus given various forms of treatment have been adopted for aneurysms which are surgically inaccessible to the more simple plan of ligature. Foremost amongst these methods are the administration of gelatin or calcium chloride to increase the coagulability of the blood generally; acupuncture, electrolysis, or wiring to promote coagulation locally. These methods have been tried chiefly in cases of intra abdominal and intra-thoracic aneurysm and hitherto with so limited a degree of success as to show that some can be abandoned as useless, whilst others, with improved technique, may yet prove serviceable in cases which have been properly selected.

The injection of gelatin.—The method of injecting gelatin was first recommended by Lancereaux in 1897 who based his recommendation upon experiments made by Dastre and Floresco confirmed by Camus and Gley, that the injection of a solution of gelatin into the veins rendered the blood more coagulable. After reporting a single successful case in 1897 Lancereaux in 1898 brought forward the details of five other cases for three of which he claimed complete success whilst in the remaining two death took place, in one patient from rupture of the aneurysm and in the other from uræmia. He sums up the conclusions at which he has arrived in the following words:—

> Gelatin introduced into the subcutaneous cellular tissue penetrates into the blood which it renders *more* than normally coagulable, and, since the blood encounters two conditions favourable to coagulation in the sac of the aneurysm, viz. a slowing of its current and a vascular wall which is often uneven, a more or less abundant clot is formed which in time fills the sac. This clot ultimately shrinks, the pouch in which it is contained diminishes in size and disappears. If the clot softens the blood penetrates between it and the walls of the sac and the tumour is reproduced. Under such conditions fortunately, coagulation again takes place readily. Gelatin, therefore, constitutes an excellent therapeutic agent, which, if it does not cure aneurysms, at any rate favours the general process of cure.

Lancereaux has fixed experimentally the quantity of gelatin necessary to obtain a sufficient coagulability of human blood. It is 250 cubic centimetres of a saline solution containing two grammes per 100 cubic centimetres of gelatin and he has found by experience that several months are required to obtain satisfactory results and that during this period at least 12 or 15 injections are necessary. According to Huchard a 1 per cent. solution of gelatin is safer than a 2 per cent. and it is advisable to leave a clear interval of from eight to ten days between each injection. As a general rule it is not possible to introduce more than 100 cubic centimetres of the gelatin solution into the subcutaneous tissue without causing pain and even this amount should be injected slowly—over an interval of from ten to 12 minutes—in order to avoid discomfort and overdistension of the skin. A considerable swelling is formed at the point of injection but it subsides entirely in from six to 12 hours. The inner aspect of the thigh is found to be the most convenient place for the injection. The method of procedure consists is filling a sterilised glass syringe with 100 cubic centimetres of the gelatin solution made as follows: One ounce of gelatin, 131 grains of sodium chloride, and 50 ounces of sterile distilled water are put into a flask plugged with cotton-wool. The flask is allowed to stand an hour or two for the gelatin to soften and it is then heated in a water-bath until the gelatin is dissolved. The flask is afterwards placed in a steamer for an hour and is subjected to this treatment on three consecutive days.

Immediately before it is used the quantity to be employed (100 cubic centimetres) is again re-steamed. Every precaution is taken to secure complete asepsis not only of the solution but also of the skin of the patient and the instruments employed. The necessity for complete sterilisation of the gelatin is shown by the fact that two patients died from tetanus at Guy's Hospital whilst undergoing this method of treatment and it appears that commercial gelatin often contains tetanus germs. It is satisfactory to find that these germs are killed by boiling for three minutes and that boiling for this length of time does not affect the process of gelatinisation.

Iodide of potassium is given in ten grain doses three times a day concurrently with the gelatin injections and with it Guthrie Rankin[5] combines minim doses of a 1 per cent. solution of nitroglycerine whenever the tension of the pulse becomes excessive or when there are symptoms of angina. The nitrogenous elements of the daily dietary are also reduced to the lowest extent and the amount of liquid allowed is kept within very narrow limits. This method of treating aneurysms by the subcutaneous injection of gelatin is still upon its trial in cases of inaccessible aneurysm. It is by no means uniformly successful and it appears likely to fall into disuse.

Treatment by the introduction of foreign bodies into the sac.—When the aneurysm is small and is inaccessible to ligature without being surgically inaccessible and when there is only a small aperture so that the danger of embolism is diminished, attempts have been made to cause coagulation locally in the sac by the introduction of foreign bodies.

Acupuncture.—Simple acupuncture without the use of electric currents was adopted at first upon the suggestion of Velpeau in France and of Benjamin Phillips in England. It has been employed by Christopher Heath and Chauncy Puzey. Three pairs of sewing needles are introduced into the sac where each pair are made to cross. They are left in position until the fifth day and are then withdrawn. Although some satisfactory results were obtained by this method it is not likely again to be adopted.

Wiring.—In 1864 Murchison and C. Moore[6] of the Middlesex Hospital passed a fine trocar and cannula into a large aneurysm of the ascending aorta which was protruding into the second and third intercostal spaces. 26 yards of fine iron wire were introduced into the sac of the aneurysm through the cannula, the end of the wire being pushed home with a blunt trocar. The operation lasted one hour and no anæsthetic was given. The patient seemed much relieved at first but died from sepsis on the fifth day. The post-mortem examination showed that the sac was full of clot mostly post mortem, but Moore points out that there was firm adhesion between the fibrin inclosing the wire and the wall of the aneurysm, so firm indeed that the adhesion was inseparable without dissection and the mass of wire and fibrin together could only be removed by tearing it apart. Loreta[7] in 1885 was the first to apply this method to an abdominal aneurysm. He performed laparotomy and passed six feet of silvered copper wire into a large aneurysmal sac. The patient left the hospital ten weeks later with the aneurysm reduced to a hard, non-pulsating mass of the size of a walnut. He died three weeks afterwards from rupture of the aorta below the aneurysm. G. L. Hunner[8] collected all the cases of this operation, both thoracic and abdominal, which had been published up to 1900. The list contains 14 cases with three cures and 11 deaths. A necropsy was obtained in nine of the 11 patients who died and in all there was evidence that the presence of the wire had induced firm clotting within the sac. The cases which did best were those in which from five to ten feet of wire were introduced.

Several other aneurysms have been "wired" since this list was published. In one by myself[9] an attempt was made to improve the technique of the operation by the use of an ingenious instrument devised by my house surgeon, Dr. G. H. Colt. The apparatus was designed to introduce a known quantity of silver wire into the sac of an aneurysm with complete asepsis, a maximum of speed and a minimum of disturbance. The instrument "snagged" the wire and caused it to coil within the sac. The simplicity of the operation defeated its own ends for the instrument worked so easily that in two minutes and a half I introduced 80 inches of silver wire into the aneurysm with a clotting surface of 3·7 square inches. The patient survived the operation 50 hours, and at the post-mortem examination a loop of silver elimination soon begins to take place through the ordinary channels of absorption. The fluid which thus accumulates in the splanchnic area may be sufficient in quantity to lead to fixation of the diaphragm and moveable ribs, causing death by respiratory failure. Saline infusion in shock raises but cannot sustain the blood pressure.

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[5] The Treatment of Aneurysm by the Subcutaneous Injection of Gelatin, by Guthrie Rankin, M.D., Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvi., 1903, p. 377.

[6] On a New Method of Procuring the Consolidation of Fibrin in Certain Incurable Aneurysms, by Charles H. Moore and Charles Murchison, M.D., Transactions of the Royal Medical and Chirurgical Society, vol. xlvii., 1864, p. 129.

[7] Loreta Memoirs Royal Academy, Bologna, vol. vi., series iv.

[8] Aneurysm of the Aorta treated by the Insertion of a Permanent Wire and Galvanism (Moore-Corradi Method), with a Report of Five Cases. By Guy L. Hunner, M.D., Johns Hopkins Hospital Bulletin, No. 116, November, 1900, p. 263.

[9] A Case of Aneurysm of the Abdominal Aorta treated by the Introduction of Silver Wire, with a Description of Instruments Invented and Constructed by Dr. G. H. Colt to Facilitate the Introduction of Wire into Aneurysms. By D'Arcy Power and G. H. Colt, Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvi., 1903, p. 263, and THE LANCET, Sept. 19th, 1903, p. 803.

Adrenalin, as has been shown, acts both upon the heart and the blood-vessels. It raises the blood pressure in every degree of shock, even when the medulla is cocainised and when it is absent, as in an animal which has been decapitated. But adrenalin is so quickly oxidised by the body tissues and by the blood that its effects are very temporary. The drug must therefore be given continuously and in excessive doses it stimulates the cardio-inhibitory mechanism, though the stimulation can be set aside experimentally by the injection of atropine.

A pneumatic rubber suit which can be inflated at will provides an artificial peripheral resistance which is capable of controlling the blood pressure within a range of from 25 to 60 millimetres of mercury and is a useful adjuvant to adrenalin in cases of advanced shock. By the continued use of artificial respiration, rhythmic pressure upon the thorax over the region of the heart, and the infusion of adrenalin, animals which had apparently been dead for fifteen minutes were resuscitated. By the same means with the addition of the rubber suit a patient who had been conventionally dead for nine minutes after an injury to his brain was partially resuscitated for 32 minutes and during this time exhibited a strong heart beat and was able to move his head. It is clear from these investigations that we are in a fair way to obtain a rational treatment for shock and collapse based, as all surgical advances should be based, upon a sound substratum of pathological knowledge gained by experiment.

THE LIGATURE OF ARTERIES IN THEIR CONTINUITY.

Everyone who knows anything of the history of surgery knows that the modern method of stopping bleeding by the ligature of arteries is due to the labours of Ambroise Paré. The ligature of arteries was described by Celsus in A.D. 50 and by Galen in A.D. 130 and these surgeons recommended that the artery should be tied in two places and afterwards divided. Few people are aware of the amount of careful experimental work which has been performed to bring up the surgical technique of ligature to its present standard of excellence, though every surgeon knows the radical change of procedure which has taken place within the last 20 years. Then, a septic ligature passed round an artery was deliberately left with the ends hanging out of the wound that it might ulcerate through the vessel with a serious risk of secondary hæmorrhage; now, a thin ligature of silk or of some animal tissue capable of being absorbed is cut short after it has been tied and is buried in the wound in full confidence that it will become disintegrated, and secondary hæmorrhage is almost unknown.

In England many of the advances in our knowledge are due to the work of Ballance and Edmunds who published their conclusions in 1891.[2] The scientific portion of the work deals with the physiological occlusion and the pathological obliteration of arteries as illustrated by the ductus arteriosus and by the changes taking place in syphilitic arteritis. Consideration is given to the conduct and fate of the corpuscles, of the clot, of the arterial coats and of the ligature after an artery has been tied. The choice of ligature and the kind of knot are then discussed, together with the amount of force which should be exerted in tying the ligature. The most important practical points are those connected with the choice of ligature, the character of the knot, and the force employed. A perfect ligature must be sufficiently strong not to break: inelastic, round, smooth, pliable, and easily tied into a knot. It must not be too bulky; it should be capable of being absorbed, though not too readily. Lastly, a good ligature should be capable of being rendered absolutely sterile. These conditions are only fulfilled by a few materials and the choice of ligature must fall on ox peritoneum, gold-beaters' skin, kangaroo tendon or boiled floss silk; failing these on boiled Chinese twist silk, chromic catgut, or silkworm gut. The reasons for arriving at this conclusion as regards the nature of the ligature may be given in the following terms: "The outer coat and sheath of an artery consist of white fibrous tissue, and the most appropriate ligature, therefore, is prepared from this material—that is to say, from tendon or peritoneal tissue of sufficient strength. These ligatures satisfy all theoretical requirements. They are strong, inelastic, round, smooth, pliable, and are easily obtained of the proper size. They are slowly absorbed and are readily made aseptic. Peritoneum should be better than tendon because it resists absorption for a longer time. Floss silk is a smooth and trustworthy ligature. Ordinary silk and chromicised catgut are good, but their rough surfaces and the presence of mucous and muscular tissue in the catgut are defects, for it makes them more difficult to keep aseptic. Wire is too rigid and too difficult to handle to make it useful as a ligature; silkworm gut is not easy to manipulate round an artery unless it has been soaked for a long time in water and, moreover, several strands must be employed to make a ligature which will not cut the coats. This adds to the difficulty, but when these obstacles are overcome silkworm-gut makes a very beautiful ligature. Ox aorta must be rejected on account of its weakness, bulk, and elasticity." For the practical purposes of everyday life in the operating theatre I prefer silk for the ligature of arteries and I direct that it shall be unwound from the wooden reels on which it is bought, re-wound on glass reels in shorter lengths, and then boiled for at least an hour. I have an abiding distrust of catgut, even when it is most carefully prepared, and I think that when tendon is used the first half-hitch of the reef-knot is likely to slip whilst the second turn is being made.

The knots ordinarily used for tying ligatures are the reef, the granny, and the surgical knot. All are open to the objection I have just mentioned, that the first part of the knot may slip whilst the second part is being completed. There is thus "an uncertainty of occlusion" which applies not only to the tying of arteries but to the ligature of other structures, such as hernial sacs, and the pedicles of tumours. To overcome this difficulty Ballance and Edmunds recommend the use of two ligatures passed round the vessel and tied as a "stay knot." They make out a strong case both on experimental and clinical grounds for the discontinuance of the ordinary practice of rupturing the internal and middle coats of arteries when they are tied in their continuity. They advocate the occlusion of the lumen by bringing the intima into apposition for some distance at the seat of ligature. The great disadvantage attending rupture of the internal and middle coats as it is usually practised in the ligature of an artery in its continuity is that the vessel is seriously weakened. There is consequently a danger of secondary hæmorrhage and this accident has actually happened after ligature of large vessels like the innominate even when there has been no appreciable sepsis.

ANEURYSMS TREATED BY METHODS OTHER THAN LIGATURE.

Much has been done of late years by physicians to treat aneurysm successfully without having recourse to the surgeon. Bellingham's rest and diet method, advocated by Tufnell, combined with the administration of potassium iodide in ten grain doses every eight hours sometimes makes a new man of a patient with an aneurysm and enables him, at any rate for a time, to perform his duties again. But the relief is too often only temporary and in other cases it never occurs. Such desperate cases drift into the surgical wards of hospitals and it is then our endeavour to do by art what nature has failed to carry out.

Diagnosis by the Roentgen rays.—Dr. Hugh Walsham[3] in England and Dr. Guido Holzknecht[4] in Vienna have shown that the diagnosis of deeply seated thoracic and cardiac aneurysms is sometimes greatly assisted by the use of the screen and by radiographs. Dr. Walsham points out that to establish the diagnosis of an intrathoracic aneurysm the shadow must be in continuity with the heart or aorta and that the shadow of an intrathoracic new growth is quite different from that of an aneurysm. The variation in density between the heart shadow and the shadow of an aneurysmal sac is important from the point of view of prognosis. Fluid blood is almost completely transparent to the Roentgen rays, whilst laminated clot is comparatively opaque. The greater the density of the aneurysmal sac in the radiograph the more external tumour parallel to each other and one or two inches apart. The number of needles may be multiplied if the aneurysm is large and the action may be prolonged till pulsation ceases or till gas can be clearly detected on percussion. A séance of 20 minutes is generally enough for one application and this may be repeated according to the circumstances of the case. The method of simple electrolysis has yielded good results, even though they were only temporary in several selected cases, but of late years it has given place to a combination of wiring and electrolysis which is now known as—

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[2] A Treatise on the Ligation of the Great Arteries in Continuity, with Observations on the Nature, Progress, and Treatment of Aneurysm, by C. A. Ballance and Walter Edmunds. 8vo London: Macmillan and Co., 1891.

[3] Clinical Journal, vol. xviii., 1901, p. 184, and Edinburgh Medical Journal, 1901, vol. i., p. 354

[4] Archiv und Atlas der Normalen und Pathologischen Anatomie in Typischen Röntgenbildern, Hamburg, 1901.

The Moore-Corradi method.—Professor Corradi, the accomplished professor of the history of medicine at Pavia, suggested this combination of wiring and electrolysis to Professor Burresi[11] who employed it in a case of aneurysm of the ascending aorta in 1878. Barwell[12] suggested a treatment on similar lines independently of Corradi and the plan has since been followed up in America chiefly by D D Stewart.[13] The advantages claimed for the method are that instead of a soft unstable coagulum being slowly formed about the wire, as is the case when wiring alone is employed, electrolysis almost immediately produces a tough clot of considerable size. Experience has shown that the strength of the current must be rather high—from 40 to 80 milliampères—and the séance long—from three quarters of an hour to one and a half hours. It is better, too, not to have both poles in the aneurysm, as was formerly the custom, but the anode or positive pole should always be the active electrode. This pole is connected with the wire which has been previously introduced into the sac and the negative rheophore should be a large clay plate or pad of absorbent wool placed upon the abdomen or under the back. The current is brought into circuit slowly, its strength being noted by an accurate milliampère meter. It is gradually *increased for a few* moments until the maximum strength supposed to be necessary for the individual case is reached, and this *maximum is* then maintained until nearly the end of the séance, when it is slowly reduced to zero. Dr. Colt has adapted his apparatus to this method of treating aneurysm by providing the ramrod with a binding screw by which the positive pole of a battery can be brought into electrical communication with the end of a wisp previously introduced into the sac of the aneurysm Hunner[14] says that with the combined method (Moore-Corradi) there have been treated 23 cases, 17 thoracic and six abdominal. Four of these, or 17 per cent, three thoracic and one abdominal have been cured; nine cases, or 39 per cent, showed amelioration of symptoms and prolongation of life. Death was probably hastened in the other ten cases.

The Venous System.

It is difficult for us in 1905 to picture to ourselves the fear and abhorrence which surgeons felt towards any operation on the veins even so late as 1883. The third and last edition of Holmes's "System of Surgery" published in that year says (vol iii, p. 170) "Numerous operations are in use for the obliteration of varicose veins. They seek either merely to produce coagulation in the varix, to divide the venous channels above or below the varices, or, finally, to remove the varicose part of the vein These results can be obtained, firstly, by the action of caustics applied over the course of the vessel; secondly, by subcutaneous division of its walls; thirdly, by compressing it between a steel pin and a twisted suture or by some similar contrivance; or, lastly, by complete excision. Except in the cases which have been referred to these operations are not to be recommended and the patient, if wise, will be content with the palliative measures of a more simple character" In England Mr. John Marshall, surgeon to University College Hospital, gave a clinical lecture in 1874 on a Case of Varicose *Veins* Treated by a New Operation He advocated in this lecture that a considerable length of the veins should be excised where it is most enlarged and the operation was performed in the following manner "The course of the vein having been marked with ink, a pin is passed under it at each end of the part to be removed The limb is then emptied of blood by Esmarch's bandage, the skin is divided along the marked line, and the vein, previously secured by figure-of-eight ligatures passed over the pins, is cut across at each end and dissected out. The wound is then dressed after Lister's method." This lecture, published in THE LANCET of Jan. 23rd, 1875, p. 113, marks the first public recognition by hospital surgeons in England of the treatment of varicose veins by open incision, and it was not long before operations upon varicose veins became more numerous.

I find that at my own hospital—St. Bartholomew's—ten patients only were submitted to operation for the relief of varicose veins in 1875 and 12 in 1876 The results do not seem to have been satisfactory, for in 1877 only three cases are recorded and in 1878 five cases. The average number of cases admitted in the decennium 1875–1885 was 8·2 and in the years 1886–1893 it was 19. *After this year the numbers* increased rapidly and an average of 70 cases a year is now maintained.

The increasing confidence of surgeons in Listerian methods soon brought about modifications in the original operation. The underpinning of the veins was first omitted because it was not found necessary to make any attempt to limit the process of clotting and with aseptic wounds veins proved themselves as amenable to ligature as arteries.

The number and extent of the incisions necessary in an advanced case of varicose veins long militated against the success of the operation and a great step in advance was made by Trendelenburg in 1890 when he published his paper Ueber die Unterbindung der Vena Saphena magna bei Unterschenkelvaricen, from the surgical clinic at Bonn in the *Beiträge zur Klinischen Chirurgie*, vol. xvii. The operation recommended by Trendelenburg is so short, simple, and effective that I have been greatly interested in it and I have done various comparative operations in cases where the two legs have been pretty evenly affected. The results have been equally satisfactory on the two sides so far as I could get the patients to make definite statements They preferred, as was natural, the operation in which there was but a single scar and with this conclusion no surgeon could quarrel, for multiple wounds mean multiple chances of sepsis. Trendelenburg's operation, however, like everything else, has its limitations. *In my hands it* has not been of use in cases of extensive capillary varicose veins where the whole leg is mottled from the thigh to the foot, as so often happens in young women, neither have I been satisfied in cases where there have been only one or two greatly *enlarged veins, for* in these cases the trunks have remained full of blood which has shown no tendency to clot or to disappear.

[Mr. Power then made a few remarks upon the modern accepted methods of treating varicocele, hæmorrhoids, and nævi, and concluded as follows:—]

It is clear from this summary of recent surgical work in connexion with the vascular system that we have not reached a limit in any single branch. There is room for improvement in the *treatment of shock*; the method of ligaturing the larger arteries is by no means perfect; the cure of aneurysm is still at fault, and even nævi cannot yet be treated satisfactorily But neither has surgery itself attained to finality. Hosts of surgeons in every part *of the* world are enlarging its bounds and amongst them not a few are engaged in endeavouring to perfect the technique *of the* surgery of the blood-vessels.

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[11] Burresi Lo Sperimentale, April, 1879, p 445

[12] Barwell: Brit Med Jour., vol. ii, 1885, p. 675.

[13] The Treatment of Sacculated Aortic Aneurysm by Electrolysis through Introduced Wire by D D Stewart, M D, American Journal of the Medical Sciences, July-December, 1892, p. 422, and July-December, 1896, p 170 See also Transactions of the College of Physicians of Philadelphia, 1897, p 25

[14] Loc cit

A PAPER ON

HOSPITAL SHIPS AND THEIR WORKING IN WAR AND PEACE.

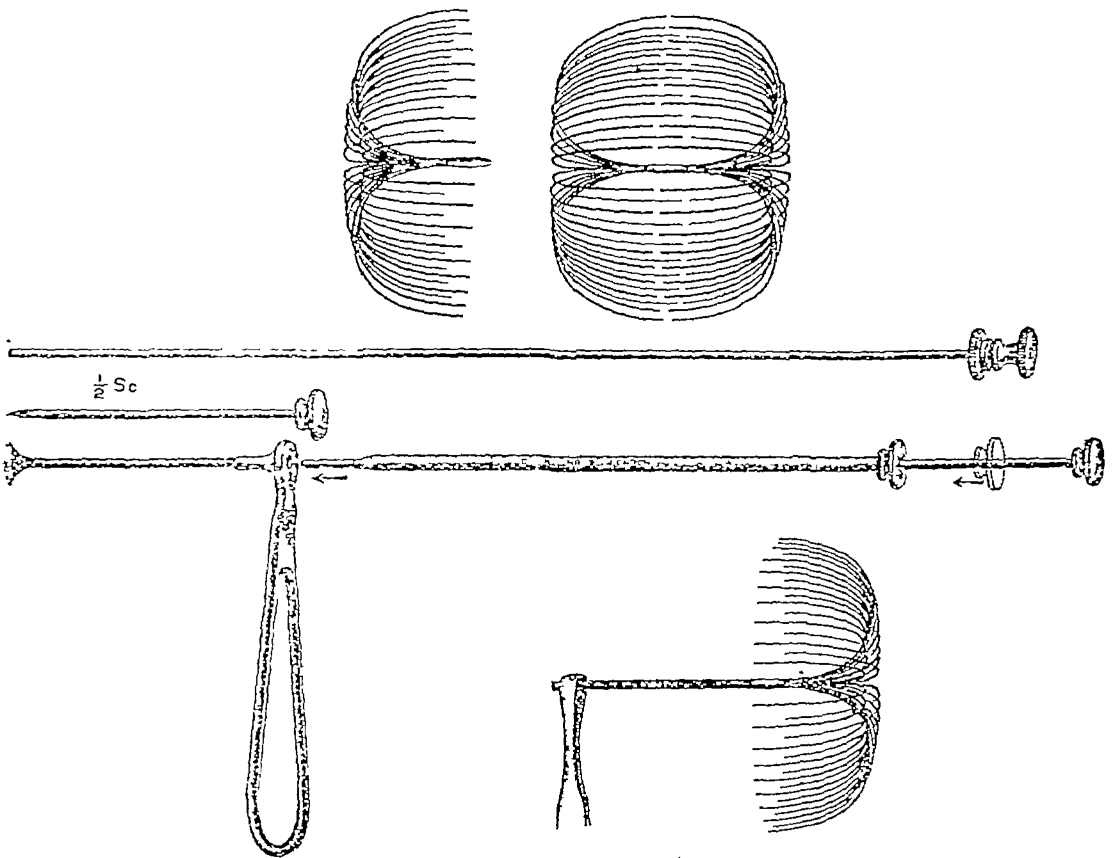
Read before the Section of Colonial and Naval Medicine of the Fifteent International Congress of Medicine, at Lisbon, April 19th to 26th, 1906,

BY P. B. HANDYSIDE, M.B., C.M. EDIN,
FLEET SURGEON, R.N.

THAT hospital ships are a necessity in time of war is now generally recognised but I would also urge *that* they are necessary in time of peace—that is to say, that ships should be built and fitted for this purpose, should be commissioned and should accompany every squadron in all its larger movements. Preparedness in this *matter is, I think*, greatly to be desired; unpreparedness seems to me to be merely courting trouble, if not disaster.

When war breaks out, as it may without much warnin wire seven inches long was found projecting into the arch of the aorta, the rest of the wire being coiled irregularly within the sac of the aneurysm and covered with blood clot, some of which was certainly formed during the life of the patient. The aneurysm was thought to be formed on one of the branches of the cœliac axis but the necropsy showed that it was derived from the abdominal aorta, that it was of the size and shape of a large orange, and that it projected forwards between the layers of the transverse mesocolon.

The apparatus consists of a trocar and cannula, a ramrod, a cartridge, and a wisp. The wisp consists of a number of fine steel wires soldered together at one end, each wire being curled over in a separate plane so that they readily expand as soon as they are at liberty to do so, though under ordinary conditions they are packed up into small bundles in which the wires lay parallel to each other. If it be preferred a cage can be used instead of a wisp. The cage consists of a bunch of fine steel wires caught together with solder at their midpoints, so that when the wires expand the cage becomes spherical. Both the wisps and the cages are made in different sizes to suit different aneurysms. Each wisp or cage fits into a cartridge or hollow metal tube open at both ends which can be adapted with ease and accuracy to the distal end of the cannula. The cartridge just holds the wisp or cage in its compressed condition as a bundle of wires lying side by side. When the operation is performed the sac of the aneurysm is exposed and if possible a purse string suture is run round the spot to be punctured. The trocar and cannula are driven through the sac wall, the trocar is withdrawn, and the cartridge containing a cage or wisp is fitted to the cannula. The contents of the cartridge are then gently pushed along the cannula by means of the ramrod until the wisp or cage is safely delivered into the sac of the aneurysm. The cannula and ramrod are immediately withdrawn and the purse-string suture is simultaneously tightened and tied to close the puncture. When a wisp is used care should be taken to puncture the sac in a direction which, as far as possible, is estimated to be towards the plane at its opening, because the wisp expands and curls back directly it begins to emerge from the cannula and there is consequently less danger of any of the wires projecting through the opening. When a cage is employed it will probably adapt itself better to the larger sac if the puncture be made in a direction parallel to the plane of the opening. Dr. Colt claims for his instrument, and I think he claims justly, that it abolishes the three great dangers attending the wiring of an aneurysm—viz., sepsis, hæmorrhage, and the escape of some of the wire from the aneurysmal sac into the parent artery. The older method of tediously introducing a length of wire into an aneurysmal sac through the lumen of a small cannula necessarily led to a serious risk of septic infection and there was a considerable loss of blood when the operation was prolonged. Dr. Colt's apparatus enables the operation to be performed in a few seconds and the whole apparatus can be thoroughly sterilised by boiling. It has been used three times within the last few months and in every case the surgeon has expressed his complete satisfaction with the manner in which it worked. The apparatus is fully described and illustrated in THE LANCET of Sept. 19th, 1903, p. 808.



The essential parts of the apparatus.

Electrolysis.—Galvano-puncture was originally suggested by Pravaz the younger, who was always interested in the treatment of aneurysm, for he took as the subject of his graduation thesis at Paris in 1857, "Sur le Traitement des Anéurysmes par les Injections de Perchlorure de Fer," and for making these injections he introduced the little Pravaz syringe, though it has long been divorced from its original purpose. Pravaz employed electrolysis for external aneurysms and in the form of galvano-puncture, but the method was soon taken up by Ciniselli[10] at Cremona, who used it in cases of thoracic and abdominal aneurysms, and he was followed by James and John Duncan in Scotland. For galvano-puncture of aneurysms steel needles are employed five inches in length, insulated to one and a quarter inches of their point. Four cells of a Bunsen's battery are sufficiently effective and do not give rise to more than a bearable amount of pain. The battery should have a continuous current and the needles, if this method of operating be adopted, should be introduced from the same side near the base of the should be capable of being brought directly over the operating table and there should also be a wandering lead with a reflector for use if operative procedure is required at night. Special arrangements for heating, in the way of extra pipes, should be fitted so as to insure a temperature of 80° F. if necessary. All the corners in the room should be rounded off; a tiled floor is preferable if it can be accurately laid, otherwise the floor should be covered with strong linoleum, the joinings of the different pieces being filled with putty or covered by thin strips of lead accurately laid and nailed down. Wooden gratings are required for the operator and his assistants to stand on so as to prevent slipping on a wet floor. The bulkheads and roof should be as smooth as possible and covered with several coats of white enamel paint. The operating table of strong and simple pattern should be on rubber wheels, but capable of being fixed in any position by locking of the wheels, or it might revolve on a central fixed pedestal with locking arrangements at four points; it is advantageous, I think, that the table should be moveable in some way in order that the part to be operated upon may be brought into the best light. Two metal screw-seat stools are required, one for the anæsthetist and the other for the operator in performing such an operation as that for hæmorrhoids. Three tables are necessary for instruments, sponges, and anæsthetics; these should all be trough-topped and have rubber wheels such as are on the operating table, and by means of a rail-guard they (and the stools) should be made fast to one of the bulkheads when not in use at sea. Six covered galvanised metal jugs are required, of about one gallon capacity each, to carry sterilised water or lotions, and a covered galvanised bucket should be fixed under the operation table, three enamelled basins are also required.

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[10] L'Elettrolisi e le sue Applicazioni Terapeutiche, opera postuma del Dottor Ciniselli Cav. Luigi, compilata dai dottori Ottoni Cav. Gregorio e Omboni Vincenzo, Cremona, 1889.

The preparing room should communicate directly by a lift with the surgical ward; it should contain the instrument cases fixed to the bulkheads, case for anæsthetics, &c., wheeled table or ambulance for conveying patients from the lift to the operation table, basins for the operator and his assistants to wash in, and a sink; the drain-pipe from these basins and sink should not pass into any latrine pipe but directly overboard. The metal cases of sterilised dressings, aprons, gowns, &c., should be kept here as well as the steriliser for instruments.

8. *X ray room.*—All the apparatus necessary for x ray work should be placed in this room and closely fitting dark screens should be attached to the shutters of the scuttles. A small annexe should be fitted as a photographic developing room. The x ray room could also be used for ophthalmoscopic examinations.

9. *Bacteriological room*.—The bulkheads of this room should be fitted with racks for the various bottles and plant generally. The incubators should be easily removeable for cleaning, the microscopes also. Taps for hot and cold water are required and a sink.

10. *Dispensary.*—The dispensary for the compounding and issue of the drugs in daily use is best situated near the medical ward. All the drugs and chemicals should be in locked racks, the dispenser having one set of keys and a spare set kept by the medical officer in charge. This room should be especially well lighted by electricity; a wandering lead is necessary. On the lower deck, or below that, there should be a large dispensary store, also well lighted, provided with a table and weighing machine, and special arrangements must be made in the form of slate or earthenware tanks for the storage of strong chemicals and inflammable drugs, the jars containing which being placed in the tanks and packed round with asbestos.

11. *Repairing room*.—This is a most necessary adjunct, as the surgical instruments constantly require resetting and sharpening, and not only those of the hospital ship but also those of the various men of war. Lathes with grindstones are required and a complete set of implements. A qualified instrument-maker should be in charge.

12. *Dental room.*—A small room is required for dental work; good light, both natural and artificial, is necessary. Fixed cases are required for the instruments and the principal fittings are a dentist's chair and a dental engine; the latter could be worked from an ordinary electric fan by removing the blades.

13. *Store rooms.*—Such space as may be available on the lower deck might be utilised for medical stores—i.e., ward necessaries—and further provision should be made for these in the holds as required.

14. *Boats.*—For the removal of patients from a man-of-war special boats are required. These should have a deck-house, occupying the whole space, except a gangway all round, and projecting above the gunwhale about two feet: this upper part should have scuttles all round it for light and air and there should be a central hatch opening fore and aft to enable the cots to be let down easily; they should be capable of taking 12 cot cases and 12 others. These boats would be towed by steamboats, four of each being supplied to each hospital ship.

15. *Means for the transportation of cots.*—For the transportation of cot cases from the boats to the ward davits are required at each gangway and lifts from the upper to the main deck. There being three large hatchways from the upper to the main and lower decks, davits should be placed on the ship's side, both port and starboard; cots would thereby be brought to the upper deck, carried at once to the hatchway opposite them, and thence sent below by the lifts. The clearing of boats would thereby be facilitated and the patients got below as rapidly as possible.

CABINS AND WARDS FOR OFFICERS AND MEN.

A. *Officers.*—About 25 beds in all are required for officers. It is unnecessary that each officer should have a cabin to himself, as the difficulty of administration would thereby be increased; there should be five or six single-bed cabins for special cases, a four- or five-bed cabin for warrant officers, and the rest of the accommodation divided into a ward for officers confined to bed and one for those able to get about. In all cases swinging cots should be used and not bunks, in order that the patients may be approached from either side. Mosquito nets, bed-tables, &c., should be provided, as in the general wards, and in each single-bed cabin some kind of a fixed table is required, a chest of drawers, and a chair and a washstand.

B. *Men.*—The general arrangements of the medical and surgical wards should be practically the same. Sufficient space should be left amidships under the central skylight for mess tables and forms. The swinging iron cots should be arranged in parallel rows, fore and aft, in one tier, and slung from iron uprights, but for use in war time if necessary spare cots could be carried in the hold to be placed in a double tier in the wards as required. Each cot should be fitted with a wire basket for holding a handkerchief or books, and there should also be a light table capable of being placed across the cot or of lying parallel with it when not required. Mosquito curtains should be provided for each cot and a certain number of plain white curtains to act as screens if required; these should not be hung from the roof, as such a fitting would interfere with ventilation and with a second cot being placed overhead, but from iron rods supported by uprights attached to the sides of the cot, and in the event of a second tier cot being slung the curtains of the lower might be attached to the bottom of the upper. Lockers for clothing should be placed round the bulkheads with numbers corresponding to the cots. All the scuttles in the hospital accommodation should be provided with wire gauze screens, so that should the draught be too great it may be modified without the necessity of closing the scuttle.

The electric light should be controlled in groups by key switches in charge of the second sick-berth steward on duty and the globes should be fitted with a moveable screen so as to prevent direct glare into patients' eyes; four wandering leads are required in each general ward and these should be fitted with concave lateral reflectors and have switches of their own. Electric fans should be supplied for use in the scuttles or ventilating shafts and two strong iron moveable pedestals for each general ward to support a fan if it is necessary to direct a current of air on to a patient directly. The roofs and sides of the wards should be painted with white enamel and the floor planed as smooth as possible, then stained and polished. If possible, in each ward there should be a shelf for books. Electrically heated kettles are necessary for each general ward and one for the officers in their pantry. Ice chests are also required for each ward and there should be an aerated water machine as well.

In the surgical ward special cots for fracture cases should be placed in groups by themselves and with extra space all round them, so as to be readily got at from every side. Three dressing tables are required, on wheels, one for the dressings themselves in their various sterile metal cases, another for lotions and instruments, and a third, in some such form as a covered slop pail, for soiled dressings. In both medical and surgical wards there must be a locked cupboard for medicines.

what an amount of trouble and anxiety would be saved if, instead of having to select ships and have them fitted as hospitals, thoroughly equipped hospital ships were already with each squadron. Then, time occupied in fitting out such ships is also of great importance; the Japanese certainly did this in the case of the *Saikio Maru* and the *Kobé Maru* in a fortnight, but I doubt if any other nation could do it in anything like this time or as efficiently and the chances are that many details might be overlooked and the ships sent to sea insufficiently equipped. Every naval officer knows that a newly commissioned ship is not so efficient as one in which the *personnel* has had time to become acquainted with the *matériel*, and certainly this would be no less so in the case of a hospital ship. Also, suppose a great battle, as is highly probable, is fought at the very outbreak of war, how fearfully handicapped a fleet would be, more especially if victorious, in having to look after all its wounded as well as many of the enemy's; how space would have to be taken up for their treatment below decks; and how, in the absence of sufficient light and air, to say nothing of comfort, a serious risk would be run of lives being lost which would otherwise be saved.

In the construction of a hospital ship the following points present themselves for consideration: (1) Kind of vessel required and size; (2) disposition of accommodation for (*a*) sick officers and men, and (*b*) officers and crew of ship; (3) ventilation and heating; (4) sanitary arrangements; (5) laundry arrangements; (6) ice making and cold storage; (7) operation room; (8) x ray room; (9) bacteriological room; (10) dispensary; (11) repairing room for instruments; (12) dental room; (13) store rooms; (14) boats; and (15) means for transportation of cots.

1. *Kind of vessel.*—A hospital ship should be capable of accommodating not less than 200 cases; this means that the ship should be about 8000 tons. There should be a deck-house running from nearly right aft to five-sixths of the distance forward; a main deck principally for the accommodation of the sick and a lower deck for other cases and for the accommodation of the sick berth staff and the crew. On each side of the deck-house there should be a wide alleyway extending to the ship's side and covered by wooden planking, forming a flying deck for the housing of boats and providing a shelter for convalescents or for the open-air treatment of pulmonary cases. It is important that a hospital ship should have speed so that she can keep up with the fastest cruiser of a squadron and also be able to make trips to port and return with as little loss of time as possible. The height between decks (main deck) should not be less than eight feet.

2. *Disposition of accommodation: upper deck, from aft forward.*—Abaft all there should be a small mortuary and post-mortem examination room, having a cemented floor and with the sinks discharging by special pipes. On both sides of the ship aft lavatories and bathrooms should be fitted for the officers of the ship and in front of these, placed amidships, there should be a large hatchway leading to the main and lower decks. Immediately in front of this the deck-house should begin in which should be cabins on both sides for officers of the ship, a saloon forward of these to occupy both sides, a pantry, and a smoking-room for ships' officers on one side and one for convalescent officers on the other. Succeeding these should come the main hatchway leading to both main and lower decks. In front of the hatchway, alongside the funnel-casing, the cooking galleys might be placed one on each side, and after these rooms for bacteriological, x ray, and dental work, succeeding these a room for the repairing of instruments, the preparing room, and in the foremost part of the deck-house the operation room. The fore hatchway should be placed well in front, and beyond that, in the bows of the ship and quite separate from the deck-house, the soiled linen room, washing room, disinfecting room, and laundry.

Main deck, from aft forward.—In the after part the baggage rooms might be placed next a saloon for sick officers on one side and the library on the other, the passage way being on the same side as the latter. Succeeding these should come the cabins for sick officers on either side, and amidships, separated by a passage from the cabins, linen rooms and utensil rooms might be placed. Ahead of these, on one side, the pantry, latrines, and bath rooms for sick officers might be placed, similar accommodation for men being on the other side. Succeeding these should come the general medical ward extending from side to side of the ship. Forward again of this might be the dispensary amidships, on the port side a smoking-room for men and pantries and on the starboard lavatories and bathrooms. On each side amidships here the lifts from the cooking galleys would come down, and such space as is not required for them could be used for linen cupboards, &c. Forward of these the general surgical ward might be placed, extending, as in the medical ward, from side to side of the ship and communicating with the preparing room above by a lift. The fore hatchway would be placed next, and beyond this the special cabins for zymotic cases with their own latrines and bathrooms on one side and on the other, separated by a dividing bulkhead, cabins for special cases.

Lower deck.—Special accommodation would here be provided for the sick berth staff and for the ship's company, with corresponding latrines and bath arrangements. Two cabins for lunatics should also be placed here and other cabins for special cases as required, the rest of the space being taken up by store rooms, &c.

3. *Ventilation and heating.*—Ventilation throughout should be by natural means as far as possible, but for use in hot weather there should be a liberal supply of electric fans, the number provided having a due regard to the size of the space in which they are to be used. The cabins, bathrooms, &c., on the upper deck will be sufficiently ventilated by their ports and doors, but the saloons and smoking-rooms should have overhead apertures (skylights), as should also the operating room, and there should be special uptakes from the galleys to the boat deck. The various cabins for sick officers and their lavatories on the main deck, besides having large scuttles, should have supply and exhaust ventilation through cowls on the upper deck, and the same applies to the general medical and surgical wards, and, in fact, to all the spaces on this deck as well as to the lower deck. The general medical and surgical wards in addition should have a large skylight running centrally over each. The cowls should be placed at intervals on the upper deck and communicate by pipes leading overhead and along the floor deck respectively to each cabin, a means for closing (shutter) being fitted to each of the inlets so that in stormy weather too much draught is not set up.

The ship should be heated throughout by steam-pipes running along the sides in the case of the main and lower decks and amidships in the upper deck cabins; radiators should also be fitted in the general wards and two or more stoves, if a suitable uptake can be made for the chimneys. The steam-pipes should have their supply directly from the main boilers. Special means should be taken to insure the sufficient heating of the operating room, as the keeping of a patient warm does much to obviate shock during an operation.

4. *Sanitary arrangements.*—The number of latrines required is about 5 per cent. of the cases carried. There should be urinals in each set of water-closets, the receptacles being of thick glazed porcelain and not of metal, which is liable to accumulate a deposit and difficult, therefore, to keep clean; a free flushing by the sea-water should be assured in each case. Hot and cold water should be obtainable in the bathrooms at all hours. For the cleaning of bedpans and urinals there should be a special tap for the purpose.

5. *Laundry arrangements.*—The soiled linen should be collected in a special room on the upper deck forward next to the washing room; the washing is best done by steam-rollers, a centrifugal machine worked also by steam being used for getting rid of most of the water afterwards. It should then be passed into the disinfectors, dried by hanging on wooden "horses" which run in and out of a chamber, the atmosphere of which is dried by steam heat; it should then be mangled and ironed and conveyed to the special cupboards below. Such things as operating gowns, towels for operating room, &c., should be sterilised in their own metal cases and kept in these in the preparing room till required.

6. *Ice-making and cold storage.*—It is essential that ice be obtainable on board at all times and if it cannot be made in considerable quantities provision should be made for the carriage of it, not only for preserving food but for use in the general treatment of the sick; in any case cold storage is required. Ice chests for daily use should be provided in each set of wards.

7. *Operation room.*—This room seems to me to be best placed in the foremost part of the deck-house, that position insuring more light and a minimum of chances of dust or "blacks" from the funnels; it should be lighted by scuttles at the side and in front and overhead also. A + 30 electric light

it may be possible to obtain permission from the captain of the ship to use a casemate or screened-off part of the battery deck as an operation theatre, but there would be considerable difficulty in getting necessary arrangements made, and at the least the operator must run the risk of distractions from noise all around him, as unless the whole routine of the ship be brought to a standstill noise of some sort is certain to occur. The difficulties of sterilising, and keeping sterile, the dressings are great, and though the hands of the operator may be something like surgically clean those of the sick berth staff in attendance can hardly be expected to attain anything like this considering their multifarious duties; all this would be obviated if we had a hospital ship to which to send our cases.

Again, hospital ships in peace time could be used to great advantage: 1. For conveying patients or invalids to hospitals on shore when the squadron was at a distance; cases at present have often to be kept on board men-of-war for considerable periods on account of there being no means available for getting rid of them. 2. For conveying invalids home from foreign stations under the most favourable conditions as to accommodation, treatment, and supervision. 3. For taking to sea for short cruises or to more salubrious harbours patients from shore hospitals, for whom change is often a great desideratum. It often happens that there are cases (e g., pulmonary) in shore hospitals abroad when the climate is unsuitable, but who cannot be sent home, say, to face an English winter, and in these much good would surely be attained if they could be placed under better hygienic and climatic conditions. 4. For taking to more salubrious climates convalescents from home hospitals (e.g., Haslar to Madeira). There are many cases of disease (fevers) contracted abroad which, though improving under treatment at home, convalesce but slowly, especially during the winter and early spring, and it must not rarely happen that officers, but more especially men, cannot be allowed to go to their own homes during convalescence on account of the climatic conditions there being unsuitable for their complaints; in such cases it is surely to the advantage of the country that means be provided for securing to them the best prospect of a speedy return to health, such being also from a financial point of view the best in the long run. Also, if such arrangements as these were known to exist it would be an additional inducement, and not a small one, for both officers and men to join a service in which every care and attention were shown to those who contracted disease due to the conditions under which they were called upon to serve. 5. For instructional purposes. The hospital ships would provide excellent training for the surgeons and sick berth staff of the squadrons to which they were attached, and as from want of the opportunity for seeing cases most naval medical officers find it very hard to keep up their work in the constantly improving methods of treatment, here is one way at least in which this may be overcome. For the sick berth staff also this is most important.

I should like to see a regulation put in force by which medical officers and the members of the sick berth staff should, unless having served in a shore hospital within three years, serve in a hospital ship for six months out of every two years of their appointments afloat.

It may be said that if all the more serious cases are always to be transferred to hospital ships the medical staff of the warships will cease to take much interest in their professional work, but I do not think this will be so; no man who values his self-respect will become slovenly in this way merely because he has only minor cases to deal with; many a case trivial at first may become, as every medical man knows, most serious if proper attention be not accorded, and this of itself should be sufficient to deter a man inclined to "take things easy" from neglecting his duty. Also for the junior officers and the sick berth staff the knowledge that they must serve repeatedly in a hospital, whether ashore or afloat, where their abilities will be more highly tried and where the opportunities for the senior medical officers of observing their work will be much greater, will prevent them from becoming careless.

I have endeavoured to lay before you as succinctly as possible my ideas of the requirements of a hospital ship and what her functions would be in peace and war. I am quite aware my views are open to criticism on many sides, but it is only by bringing such views forward and submitting them to the criticism of those who understand the subject that a sound scheme for the establishment of hospital ships can be

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REMARKS ON LEPROSY IN CAPE COLONY.[1]

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So much has recently been written on the subject of leprosy, it has been the occasion for so much discussion, that one almost needs to make an apology for introducing the question. The word "question" is, indeed, writ broadly all over what we know as to this ancient disease. Still, ancient, indeed prehistoric, as it no doubt is, leprosy is with us as a very present trouble. This is certainly the case with us in South Africa and to those visiting the country who are interested in disease the problems of leprosy in our midst present many features which must attract attention. It is, if not a burning question, one which may well be described as constantly smouldering, lighting up at intervals into periods of activity. The problems connected with it are not only pathological; there are administrative, legal, and even moral questions which arise out of its existence among us which need to be handled with great circumspection, moderation, and sagacity. One has only to turn to the map of the world to see how widespread the question is; it may almost be said that there exists hardly a British dependency or colony which has not its leprosy question. In India the patients approach in numbers 200,000, so great a multitude that the administration, skilled as they are in complicated social problems, are reluctant to put in force the necessary regulations for its control; while in Australia, small as is the number of the affected, alarm is felt at the insidious progress of the disease and vigorous measures to check its spread are being enforced. That such measures are urgent and necessary the history of leprosy in Cape Colony most clearly shows.

There are a number of countries in which we can with a very fair degree of accuracy trace the progress of leprosy within comparatively recent times. Such are some of the Pacific islands, Australia, some West Indian Islands, and the States of Central and South America, and among such countries we may fairly include South Africa. When the land was first colonised by Europeans towards the latter part of the seventeenth century the aboriginal races who met the invaders at the south-western extremity of the continent were the Hottentots and the Bushmen and I have been able to find no satisfactory evidence of any weight to show that leprosy was present among those races. It is true that some have stated that they were affected and not only they but also the Bantu race, who about the same time were pressing the more ancient inhabitants into the south-western corner of the continent. No satisfactory evidence is given of this either. We all know the rough-and-ready diagnosis of leprosy which is given to any cutaneous affection among savages by such untrained explorers as first came in contact with the natives of South Africa and little more weight is to be attached to traditions of disease among such native races. Besides, the very habits of these people precluded their being subject to this disease. The Bushmen were nomadic hunters, constantly moving from place to place in pursuit of game. The Hottentots were also largely wanderers, driving their flocks of cattle from one locality to another but never advanced so far towards settlement as to cultivate or to till the ground, and in this connexion it is to be noticed that those parts of the country which still retain the last pure remnants of those nearly extinct peoples are the parts which on the evidence of our statistics are practically free from leprosy. That the great incursion of the Bantus which resulted in the peopling of all the south-eastern parts of South Africa with that race brought leprosy in its train is in the highest degree improbable and unsupported by evidence of any value; the disease is not one to survive those long decimating campaigns, and the Bantus have always in their native state been remarkable for their attention to physique and for the extrusion by summary and effectual process of the chronic sick among them.

The spread of leprosy in this country has been from the south-west to the north east, following, indeed, the track of the new civilisation which has progressed in that direction.

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[1] A paper read before the Physiological Section of the British Association for the Advancement of Science on August 18th, 1905.

In speaking of sterile dressing cases I should like to advocate that such things as sterile gauze, cyanide gauze, &c., should be supplied in rolls horizontally placed on revolving spindles in drum-like cases as nearly air-tight as possible and with the opening arranged valve-like at the side, so that just sufficient material could be drawn out as was required at a time, the rest remaining uncontaminated in the drum.

Some arrangement must be made for the collection and destruction of soiled dressings. They should be burnt, preferably in a destructor for the purpose, but if this cannot be conveniently arranged for, then in one of the main furnaces down below. The dressings as they are removed from a patient should be placed in paper bags, each of which would be closed by twisting its neck, and collected in the covered slop-pail and conveyed in it to the furnace.

The pantries for both the general wards should if possible be arranged at the ship's side opposite to where the lifts come down from the galleys. Sinks with hot and cold water are required and all washing of table crockery should be carried out here. Urinals and bedpans should be cleaned in a special water-closet in connexion with each set of latrines, where a jet of water can be applied from a special pipe for the purpose.

Wards for infectious cases.—These should be single-bed cabins; no special fittings are required but attention should be particularly directed to securing a hard, smooth surface to the bulkheads and floor, and to the position of the uptake ventilation on deck. For use in pulmonary tuberculous cases Japanese paper handkerchiefs should be supplied, into which the patients should be directed to expectorate; after use the handkerchief should be tightly squeezed and then placed in a covered metal pot, ultimately being burnt in the same manner as the surgical dressings. One or two hip-baths and portable water-closets are also required.

PERSONNEL.

A. *The medical staff in war time.*—One fleet surgeon as principal medical officer; one staff surgeon; four surgeons; one chief sick berth steward as butler; five first-class sick berth stewards: one for medical ward, one for surgical ward, one for officers' ward, one for infectious ward, and one for operation room, instruments, &c.; five second-class sick berth stewards: two for medical ward, two for surgical ward, and one as assistant dispenser; 25 sick berth attendants: nine for medical ward, nine for surgical ward, three for officers' ward, two for infectious ward, and two for special duty; one qualified dispenser in charge of stores; one instrument repairer; and four specially qualified cooks.

B. *The medical staff in peace time.*—One fleet surgeon as principal medical officer; three surgeons; one chief sick berth steward as butler; five first-class sick berth stewards as in war time; 15 sick berth attendants: six for medical ward, six for surgical ward, two for officers' ward, and one for infectious ward; one qualified dispenser in charge of stores; one instrument repairer; and two specially qualified cooks.

DUTIES AND WORKING OF HOSPITAL SHIPS.

A. *In war time.*—In time of war there should be at least two hospital ships to each squadron, or more, depending on the number of men-of-war constituting it. To one of these hospital ships the more serious cases occurring in the fighting ships should be transferred as often as opportunity occurs, so as to leave the latter unhampered and fit to engage the enemy at the shortest notice and in the most favourable circumstances. If this is not done such cases would have to be treated below-decks in their own ships, and the manner of doing so could not be other than unsatisfactory and with the great possibility of evil to themselves or, in the event of infectious cases, to others. They would also occupy space required for the accommodation of the injured in battle and their removal would leave the medical officers and sick berth staff free to devote all their energies to the wounded in battle.

Of course, in certain cases it might not be possible, from stress of weather or from the rapid movements of the squadron, to keep all the men-of-war clear of serious cases up to the time of an action, and probably there will always be some such on board, but still I think that every endeavour should be made to remove them in order that the fighting ships should be in as high a state of efficiency as possible.

I should in the above way fill up one hospital ship at a time, the other, or others, being kept for the emergency of battle. A certain number of these cases would probably return to their own ships cured, but this altogether depends on the nature of their complaints and the time which elapses between their reception on board the hospital ship and the battle. When full up or nearly so the hospital ship should be sent to the nearest hospital ashore and there discharge her sick, renew her supply of stores, and rejoin her squadron as soon as possible.

On an engagement taking place, whether of a running nature or of opposing squadrons circling round each other, all that the hospitals ships could do would be to keep as clear as possible without losing touch. Should a man-of-war be disabled and not pressed by the enemy a hospital ship would then approach her and take the wounded on board, the whole crew, if the former were sinking, but in this case the uninjured would be transferred to another man-of-war as soon as possible after the fight was concluded. In the event of a ship of A fleet coming up with a totally disabled ship of B fleet, and it being necessary for the latter to strike her flag, I presume that a hospital ship of B fleet would still approach and receive the seriously wounded, the surgeons of the A ship probably supervising which cases should be permitted to go to the B hospital ship and which they considered should be made prisoners on account of their injuries being such as would not be likely to prevent their rejoining the fighting line in a short time. It is unlikely that any nation would wish to encumber itself with the enemy's seriously injured and therefore they would permit all such to go on board their own hospital ships.

At the conclusion of a battle I presume the hospital ships of the victorious fleet would go to the nearest of their own men-of-war first and remove the cases from her, then taking the other ships in rotation, always having regard to any signals which indicated that a ship was so damaged as to be in danger of sinking and proceeding to her assistance in that case first. After collecting the wounded the hospital ships would make all speed to the nearest of their own shore hospitals and having landed their cases rejoin their squadrons without loss of time. I do not know whether hospital ships would be allowed to land their cases at neutral ports, but if they were I suppose that the men who recovered from their injuries would be interned till the end of the war, those who were capable of bearing arms again at any rate. Further than what has been above mentioned, what would happen to the hospital ships of the defeated fleet is hardly possible to say, as everything would depend on how much damaged the men of-war were; certainly, if able to escape the latter would not wait to transfer wounded anywhere near the scene of the action; the senior officer would probably make signals ordering the hospital ships to pursue such course as was considered necessary.

Besides their purely naval function, the employment of hospital ships for the conveyance of military wounded has to be considered. The sick and wounded of a naval brigade landed for duty ashore would naturally be removed home, as necessary, by the hospital ships, but it would be necessary also to do the like by the military, and for this purpose there should be ships of the mercantile marine selected during peace time which can be speedily converted into hospital ships as required.

B. *In peace time.*—There should be one hospital ship attached to each squadron and one to each of the large home hospitals, the latter being used as will be stated later, and also acting as reserve ships for war time when they could be despatched at once to supplement those of the various squadrons. I think it well also that there should be a certain number of ships of the mercantile marine selected during peace time to be converted into hospital ships if required in war, the whole detailed plan for their conversion being made out and ready for application.

In peace time a hospital ship accompanying its squadron would be available for the treatment of all the more serious cases of accident and disease occurring in such squadron; they would then receive better attention than is possible in a man-of-war, air, light, and freedom from noise would be assured, infectious cases could be isolated, and lunatics would have accommodation suitable to their condition. Further, injuries could be treated aseptically, a condition which is rarely obtained and only with the greatest difficulty in men-of-war. Most of us in the Naval Medical Service have felt the very nearly insurmountable difficulty there is in obtaining asepsis for wounds when having to operate in a man-of-war; first and foremost the operation has most likely to be performed in the sick bay, a place used as a ward, dining-room and dressing-room for all kinds of cases;

than 500. With our large coloured and native populations we will be fortunate if we attain anything like an approximate success by the middle of the present century. It need hardly be said that there is no evidence whatever that this continuous extension of the disease, geographically and numerically, is due to any particular form of diet or racial, hereditary, or climatic tendency. In all the circumstances fish, cured or uncured, fresh or unsound, or tainted or manipulated in any conceivable way, is about the last cause one would pitch on in South Africa as affording an explanation. One only needs to travel among the natives of the upland regions to be convinced of this; the facts were, indeed, too strong even for Mr. Jonathan Hutchinson, and to explain the communication of the disease to persons who clearly had never been exposed to fish contamination he conceived the "commensal" mode of communication, the disease being transferred from the affected to the healthy by food infected by leprous hands and thus conveyed to the body by means of the alimentary tract. This explanation, he contends, embraces all those cases of communication which cannot be explained by the assimilation of contaminated fish. This is certainly an enormous step on his part towards the admission of personal communication of the disease and yet even this lacks supporting evidence. When I was medical officer on Robben Island I had an opportunity extending to a period of seven years of examining the pathological conditions in a large number of necropsies of leprous individuals which were performed with some care, and I cannot recall a single case where the absorptive apparatus of the alimentary tract was the seat of leprotic lesions. This freedom was, indeed, very remarkable and unmistakeably pointed to the conclusion that this was not one of the channels by which the bacilli reached their nidus of growth in the body. Of course, in a bad nodular case bacilli must have passed down the canal in enormous numbers and yet the mesenteric lymphatic glands do not show leprotic invasion. Leprous ulcers, in my experience of the mucous membranes of the stomach and intestines, are never found. But in those cases where lepropsy is complicated with tuberculosis tuberculous ulceration of the intestines and infiltration of the mesenteric glands with the inflammatory reactive products of the tubercle bacillus were as common as might be expected. The difference in the action of the two bacilli was in this respect most marked, as it is indeed in so many other vital reactions, so much so, indeed, that it seems extraordinary to hear the suggestion made that a specific relationship exists between the two bacilli. Later I shall allude to some of the other remarkable selective activities of the bacillus lepræ, but here I may say a word as to the common combination of leprosy and tuberculosis in the same individual. The maculo-anæsthetic variety of leprosy is much more frequently affected with tuberculosis than the nodular and tuberculosis is the usual cause of death in this clinical form. But occasionally a nodular case may be infected by the tubercle bacillus and then the two diseases strive together for the destruction of the unfortunate patient, pursuing perfectly independent courses, and in point of rapidity of action and virulence the bacillus tuberculosis soon anticipates the bacillus lepræ in its lethal effect; it possesses the toxic power of causing coagulative necrosis in the cells surrounding it, a property entirely absent in the bacillus lepræ, its absence accounting for many of the peculiar characteristics of leprosy.

In the Colony the districts where the disease first made its appearance unmistakeably are still those where it is most abundant; Caledon, where the first leper hospital was established, still holds a bad pre-eminence, the proportion of the population affected amounting for all races to nearly 5 per 1000, a proportion which decreases radially in the surrounding districts of the western province. The thickly populated district of Stockenstrom in the eastern province, adjoining densely stocked native districts, is another area where the proportion of affected is nearly as large as in the west, and here also we notice the same radiating diminution in the surrounding districts Another region where the proportion is fairly high is that surrounding, and to the west of, Kimberley, where it is 2·5 per 1000. It will thus be seen that there are large districts in the colony where leprosy is endemic and that these districts differ from each other in geographical position, climate, and character of population; they agree in the considerable number of individual leprous foci they contain, and have for a long time contained. In a visit which I made in connexion with this subject in 1898 to the native territories I was particularly struck with the focal character of the distribution in those parts where it had not been for a lengthened period endemic. Leprous kraals, separated from each other by wide tracts, were frequently found. On inquiring into the history of such kraals the headsman of the district would not seldom give the information that a relative of the occupier had returned from working in some distant part of the Colony either leprous or after his return had become so, and that some time afterwards other cases made their appearance in the kraal.

The number of those of European descent on the register in 1903 amounted to close on 100 and of these six were born out of the Colony. While the great majority are of Dutch colonial descent, a proportion are of pure British extraction. Up till 1896 there were very few European lepers on Robben Island who were not of Dutch colonial descent, but since then an increasing number of pure British extraction have been admitted, some of them cases of great severity, and, with a few exceptions, these had, before coming to South Africa, visited countries where they might have contracted the disease; the others acquired it in the Colony. Of course, hereditary predisposition was in these cases out of the question, and in some there was an acknowledged history of association with lepers, not, however, amounting to "commensalism." The large preponderance of the European cases I have seen, and this is also borne out by statistics, have been of the nodular or mixed variety. The same variety is also in excess in Norway. Australian statistics also show the proclivity of those of European descent to develop the disease in this severe form. Why it should be so is difficult to say. On the other hand, the pure native, as seen in his own natural habitat, as a rule, develops the disease in the maculo-anæsthetic form and, more than this, many of them take it in a slight form and do not exhibit in its course that cachectic look which is so characteristic of actively progressive leprosy. Some of these natives show only a few insignificant maculæ, with perhaps in addition a contraction of the fingers and slight wasting of the arm muscles, often unilateral; they are frequently, apart from this slight disfigurement, quite healthy-looking and able-bodied. The infectivity of such cases needs very careful consideration and is receiving it at the hands of the responsible officials. Bad cases of nodular or mixed leprosy are of course met with among the natives and are apt to be very severe indeed. But, as I have said, the proportion affected in this way is comparatively very small. It has also seemed to me that leprosy tends to run a less severe and a modified course in the high and dry inland regions of the country and that the proportion of nodular cases increases with propinquity to the coast line. I have already mentioned a racial predisposition to a certain form of clinical affection in the disease and now it would seem that climate is not without some modifying effect.

Many of the maculo-anæsthetic cases are extremely prone to the attack of tuberculosis, and particularly so when confined in institutions, and a very large proportion of the annual leper death rate is due to tuberculosis killing off such cases. The nodular form seems much less susceptible to tuberculosis and it is difficult to find a satisfactory explanation of this unless it is due to the condition of general leucocytosis which is so prominent a feature in nodular leprosy. Indeed, but for the dying off of the patients from tuberculosis the accumulation of the affected would be very much greater than it is. In the mixed races the preponderance of the maculo-anæsthetic over the nodular cases is not so great, but the excess is nevertheless very considerable.

In most other respects the clinical history of affected persons in this country presents no difference whatever from what occurs in leprosy all the world over. It has the same insidious beginning, the same lack of definite information exists as to the time and source of infection. Considering that we know practically nothing about the incubation period of leprosy this uncertainty is not surprising; it applies, though in a less degree, to the sources of infection in individual cases of tuberculosis. The cases which one usually sees in asylums are comparatively old cases even on admission. I have examined close on 2000 cases on Robben Island, Emjanyana, the native territories, and various parts of the country, but I do not recall among them one who could with certainty be said to have been affected for a less period than 18 months, and the vast majority were much older. By the time a case becomes suspiciously recognisable it is by no means of very recent origin. The period of incubation of an infective disease is usually and properly

The earliest cases to attract attention occurred in the neighbourhood of the Cape Peninsula near the first settlement, Cape Town. During the early days of Dutch colonisation, when the Cape was under the control of the Dutch East India Company, many servants and slaves were brought from the East, from those very parts which had long been infested with leprosy. From the centre and hotbed of leprosy in the Far East, south-eastern China, it had been carried by the emigrating coolies all over the eastern archipelago to those very parts of the Dutch East Indies from which Malays and others were brought by the Dutch traders to their new colony at the Cape, and as even at that time the climate was noted for its healthfulness it is most probable that invalids suffering from tropical diseases settled in the Cape Peninsula. It is practically agreed on all hands that the leprosy in Cape Colony was introduced by Malays or coloured servants or slaves imported from the Dutch East Indies. Mr. Jonathan Hutchinson, indeed, has ventured to give a characteristic interpretation to this generally accepted account of the initial method of its introduction. He states that as the early Dutch farmers were unable to find food to supply their Hottentot labourers Malays were brought from the East for the purpose of salting and curing fish for a food-supply and that the badly cured fish was the means of conveying and disseminating leprosy and giving it the hold on the coloured population at the Cape which it has ever since increasingly maintained. But we know well from the history of Chinese- and Malay-introduced leprosy in Australia and elsewhere that such immigrants did not in all cases arrive for the purpose of curing or dealing in fish, and also that their dietetic and social habits were revolting rather than acceptable to the populations they were thrown among and yet that leprosy followed on their immigration.

As the new colony at the Cape became more settled and organised the intermingling of the various people transplanted from the East, from Java, Ceylon, Madagascar, and Mozambique, and other eastern lands, with the indigenous stock, has produced a heterogeneous and motley population of every gradation of colour, feature, and physique, and this constitutes the coloured or mixed race which from an early period, by its serviceable qualities, has been employed in all agricultural, domestic, and industrial duties at the Cape, and it is this class in the Colony proper, excluding the native territories, which shows the preponderating number of those affected with leprosy, and it is undoubtedly to this class that we must, in the first instance, attribute the passing of the disease to the healthy European settlers. Numerous instances are on record where the disease in a Dutch farmer's family seemed to have its origin in the presence of a leprous farm servant or domestic. The following authenticated and suggestive history is selected from many others submitted in evidence to the Leprosy Commission of 1895. Leprosy was first noticed on a certain farm in the Western Province in the case of a Hottentot labourer who had been working on it for a short time; next a little girl, the farmer's daughter, became affected; then the waggon-driver, a close intimate of the Hottentot, showed unmistakeable symptoms; then followed the farmer himself; then a girl who had come to nurse the farmer's daughter; and finally the farmer's niece who frequently visited the farm and who was intimate with the leprous daughter of the farmer became herself a victim to the disease.

In 1756 it was noted with alarm that the families of two European farmers in the Stellenbosch district were affected with leprosy and they were partially isolated on their own farms, but nothing further appears to have been done and the disease spread apace, causing serious anxiety to the Government in the early years of the nineteenth century, so much so that an asylum was set apart for sufferers. It was most prevalent in the Caledon district and then in 1822 the settlement was placed on a spot which by some grim irony was called Hemel en-Arde—heaven on earth. It was an isolated spot and patients were brought from long distances to it, for the disease had by this time become widely disseminated in the colonised area. From 1822 till 1845, when Robben Island was constituted the asylum, upwards of 400 cases were confined there. But the patients isolated at Hemel-en-Arde and at Robben Island up to the time the present stringent Leprosy Repression Act was inforced in 1892 were voluntary cases and doubtless therefore of the most severe and helpless kind, so that during that long period a far greater number must have been at large. The passing of the Act was the recognition that the evil had now assumed most serious proportions, leprosy was spread far and wide throughout the Colony, had obtained a firm hold of the dense native population in the Eastern Province, had invaded the native territories proper and crossed the frontier into the Orange Free State, the Transvaal, and found a nidus among the Zulus of Natal.

As soon as the Leprosy Repression Act was put in force it was evident that Robben Island would not suffice to accommodate all the affected, and a large asylum was established in a beautiful and fertile spot in the centre of the native territories at Emjanyana. Its inmates are now practically as numerous as those of Robben Island and the question of accommodation there is equally urgent. I may mention here in connexion with the spread of leprosy a factor which has materially contributed to it in the eastern region of the native territories. In 1862 the British Government allowed several thousand Griquas under Adam Kok to settle in that part of Kaffraria now known as Griqualand East. These were a race of mixed Dutch and Hottentot descent who had previously lived in the large district west and north-west of Kimberley. Leprosy is known to have been firmly established among them. They migrated to the number of 15,000 to a depopulated tract of country and founded the settlement of which the town of Kokstad is now the centre. Here a leprous focus was established from which the disease spread widely in that part of the country and for some years there has been a small asylum in the neighbourhood of the town. I happened to visit that district in 1898. An improvement has no doubt been effected since but the evidence of the prevalence of leprosy in that district and of its tolerance by the inhabitants at the time was such as to give rise to grave concern; it was evident that the disease had taken a firm hold and was viewed in a somewhat fatalistic spirit.

As indicating to some extent the increase and spread of leprosy in Cape Colony, though no doubt the figures are accentuated by a more thorough application of sanitary enactments, I may quote some statistics comparing the year of the census of 1891 with that of 1904. In 1891 there were 626 known lepers, and in 1904 1230, a very considerable increase in both Europeans and other than Europeans. The increase in the total leprosy-rate per 10,000 was 24 per cent., the European increase was 15 per cent., and in other than Europeans 25 per cent. The persons in the colony enumerated as leprous increased from 1891 to 1904 by 81 per cent., while the population increase was 57 per cent. The Hottentot and mixed races have the highest leprosy-rate, and the Europeans the lowest, while the Kaffirs at present occupy an intermediate position. Of the 1230 persons enumerated as leprous in 1904, 1087 were in asylums or other public institutions and 143 in private dwellings. On June 30th, 1904, 479 of them were segregated on Robben Island and 492 at Emjanyana, while six apparently were at the small station at Kokstad. The above figures for the colony do not include about 100 leprous persons from the Orange River Colony who are segregated at Robben Island. In the census report the matter is well summed up as follows: "There has been a decided increase in leprosy and it has not yet been adequately coped with for lack of asylum accommodation; many hundreds of the leprous die in their homes under no medical supervision or regulation. The medical officer of health of the colony estimated the number of lepers still at large in 1903 as at least 1000. Between 1893 and 1903, on an average 286 fresh cases have been discovered per annum without any very special endeavour to discover fresh cases, but only 190 per annum have been sent to asylums. There is no decided sign as yet of diminution of the number of occurring cases, notwithstanding the large numbers sent to the leper asylums." These are not very cheering figures for those who desire to see leprosy diminished to a vanishing point at no distant date; but when we learn from the report of the medical officer of health that the discovery of the leprous depends entirely on notification made by medical men and persons under whose observation they may chance to come, so that only well-marked cases are brought to light, the prospect seems still more remote. In the native territories especially, it is stated, "only some of the more obvious cases have been brought to notice."

Sufficient has now been said to show how from small beginnings the disease has spread over the country and become a most serious problem. The numbers in Cape Colony at present approach those existing in Norway in 1856 and it has taken half a century of segregation in a civilised and educated people to reduce that number to less than 500. With our large coloured and native populations we will be fortunate if we attain anything like an approximate success by the middle of the present century. It need hardly be said that there is no evidence whatever that this continuous extension of the disease, geographically and numerically, is due to any particular form of diet or racial, hereditary, or climatic tendency. In all the circumstances fish, cured or uncured, fresh or unsound, or tainted or manipulated in any conceivable way, is about the last cause one would pitch on in South Africa as affording an explanation. One only needs to travel among the natives of the upland regions to be convinced of this; the facts were, indeed, too strong even for Mr. Jonathan Hutchinson, and to explain the communication of the disease to persons who clearly had never been exposed to fish contamination he conceived the "commensal" mode of communication, the disease being transferred from the affected to the healthy by food infected by leprous hands and thus conveyed to the body by means of the alimentary tract. This explanation, he contends, embraces all those cases of communication which cannot be explained by the assimilation of contaminated fish. This is certainly an enormous step on his part towards the admission of personal communication of the disease and yet even this lacks supporting evidence. When I was medical officer on Robben Island I had an opportunity extending to a period of seven years of examining the pathological conditions in a large number of necropsies of leprous individuals which were performed with some care, and I cannot recall a single case where the absorptive apparatus of the alimentary tract was the seat of leprotic lesions. This freedom was, indeed, very remarkable and unmistakeably pointed to the conclusion that this was not one of the channels by which the bacilli reached their nidus of growth in the body. Of course, in a bad nodular case bacilli must have passed down the canal in enormous numbers and yet the mesenteric lymphatic glands do not show leprotic invasion. Leprous ulcers, in my experience of the mucous membranes of the stomach and intestines, are never found. But in those cases where lepropsy is complicated with tuberculosis tuberculous ulceration of the intestines and infiltration of the mesenteric glands with the inflammatory reactive products of the tubercle bacillus were as common as might be expected. The difference in the action of the two bacilli was in this respect most marked, as it is indeed in so many other vital reactions, so much so, indeed, that it seems extraordinary to hear the suggestion made that a specific relationship exists between the two bacilli. Later I shall allude to some of the other remarkable selective activities of the bacillus lepræ, but here I may say a word as to the common combination of leprosy and tuberculosis in the same individual. The maculo-anæsthetic variety of leprosy is much more frequently affected with tuberculosis than the nodular and tuberculosis is the usual cause of death in this clinical form. But occasionally a nodular case may be infected by the tubercle bacillus and then the two diseases strive together for the destruction of the unfortunate patient, pursuing perfectly independent courses, and in point of rapidity of action and virulence the bacillus tuberculosis soon anticipates the bacillus lepræ in its lethal effect; it possesses the toxic power of causing coagulative necrosis in the cells surrounding it, a property entirely absent in the bacillus lepræ, its absence accounting for many of the peculiar characteristics of leprosy.

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As soon as the Leprosy Repression Act was put in force it was evident that Robben Island would not suffice to accommodate all the affected, and a large asylum was established in a beautiful and fertile spot in the centre of the native territories at Emjanyana. Its inmates are now practically as numerous as those of Robben Island and the question of accommodation there is equally urgent. I may mention here in connexion with the spread of leprosy a factor which has materially contributed to it in the eastern region of the native territories. In 1862 the British Government allowed several thousand Griquas under Adam Kok to settle in that part of Kaffraria now known as Griqualand East. These were a race of mixed Dutch and Hottentot descent who had previously lived in the large district west and north-west of Kimberley. Leprosy is known to have been firmly established among them. They migrated to the number of 15,000 to a depopulated tract of country and founded the settlement of which the town of Kokstad is now the centre. Here a leprous focus was established from which the disease spread widely in that part of the country and for some years there has been a small asylum in the neighbourhood of the town. I happened to visit that district in 1898. An improvement has no doubt been effected since but the evidence of the prevalence of leprosy in that district and of its tolerance by the inhabitants at the time was such as to give rise to grave concern; it was evident that the disease had taken a firm hold and was viewed in a somewhat fatalistic spirit.

As indicating to some extent the increase and spread of leprosy in Cape Colony, though no doubt the figures are accentuated by a more thorough application of sanitary enactments, I may quote some statistics comparing the year of the census of 1891 with that of 1904. In 1891 there were 626 known lepers, and in 1904 1230, a very considerable increase in both Europeans and other than Europeans. The increase in the total leprosy-rate per 10,000 was 24 per cent., the European increase was 15 per cent., and in other than Europeans 25 per cent. The persons in the colony enumerated as leprous increased from 1891 to 1904 by 81 per cent., while the population increase was 57 per cent. The Hottentot and mixed races have the highest leprosy-rate, and the Europeans the lowest, while the Kaffirs at present occupy an intermediate position. Of the 1230 persons enumerated as leprous in 1904, 1087 were in asylums or other public institutions and 143 in private dwellings. On June 30th, 1904, 479 of them were segregated on Robben Island and 492 at Emjanyana, while six apparently were at the small station at Kokstad. The above figures for the colony do not include about 100 leprous persons from the Orange River Colony who are segregated at Robben Island. In the census report the matter is well summed up as follows: "There has been a decided increase in leprosy and it has not yet been adequately coped with for lack of asylum accommodation; many hundreds of the leprous die in their homes under no medical supervision or regulation. The medical officer of health of the colony estimated the number of lepers still at large in 1903 as at least 1000. Between 1893 and 1903, on an average 286 fresh cases have been discovered per annum without any very special endeavour to discover fresh cases, but only 190 per annum have been sent to asylums. There is no decided sign as yet of diminution of the number of occurring cases, notwithstanding the large numbers sent to the leper asylums." These are not very cheering figures for those who desire to see leprosy diminished to a vanishing point at no distant date; but when we learn from the report of the medical officer of health that the discovery of the leprous depends entirely on notification made by medical men and persons under whose observation they may chance to come, so that only well-marked cases are brought to light, the prospect seems still more remote. In the native territories especially, it is stated, "only some of the more obvious cases have been brought to notice."

Sufficient has now been said to show how from small beginnings the disease has spread over the country and become a most serious problem. The numbers in Cape Colony at present approach those existing in Norway in 1856 and it has taken half a century of segregation in a civilised and educated people to reduce that number to less different thing from producing the disease. I have seen various animals living for long periods in commensal relations with patients, such as dogs, cats, rats, mice, fowls, and birds of various kinds, but though carefully looked for no symptoms of the disease were noticed. One cat and two mice showed signs of nasal ulceration but microscopic examination showed no bacilli and in the case of one of the mice the condition was epitheliomatous, so that the other two instances were probably the result of trauma. The theory that the disease is conveyed through an intermediate host is certainly an enticing one but at present it lacks any supporting evidence whatever. Fleas, bugs, acari, and other skin parasites have been suggested as likely go-betweens but proof is still to seek. If, on the other hand, the nasal mucous membrane is the primary seat of infection, the intermediate host theory must go by the board. The means by which implantation can take place on the mucous membrane can be easily understood.

During the many years Robben Island has been occupied as an asylum only two cases of communication have, so far as I am aware, been recorded on good evidence, and I have not heard of any at Emjanyana. In this negative respect the South African asylums are very much at one with similar institutions in other parts of the world. Still, there are few such asylums where some recorded cases of communication do not exist. Where the association of individuals is that of daily social domestic intercourse the cases of communication recorded become enormously increased, as is the case in consumption.

My experience of the treatment of the disease has been much on a par with that of most others. The serum treatment, of course, had a good trial as we were liberally supplied with "anti-leprotic" serum from Bogota, prepared by Dr. Carrasquilla; also serum prepared by Dr. Herman from Dr. P. S Abraham's laboratory in London, while we made ourselves a considerable amount of serum from the blood of arrested cases of leprosy. We used control experiments with various animal sera, an account of which will be found in the Proceedings of the Leprosy Congress in Berlin, 1897. The results were quite negative. Indeed, it is difficult to see how a bacillus the toxicity of which is so slight can be inhibited by serum treatment. Extracts were made by us of enormous quantities of bacilli and these injected into rabbits produced no toxic symptoms whatever Treatment by anti-leprotic sera, therefore, may practically be considered out of court in this disease. The whole pathology is essentially different from that of the acute affections where antitoxic sera are of value.

It would take up too much time to describe my experiences of treatment by different drugs, but I may say at once that I experienced very much better results with chaulmoogra oil than with any other, and there is such a general consensus of confirmatory evidence from many quarters that there can be no doubt of the distinct value of some constituent of this substance in leprosy. I say some constituent, for the oil is a highly complex body and its pharmacology is as yet far from worked out and it is probable that as now supplied its composition is by no means uniform. An approximate analysis gives gynocardic acid 12 per cent., palmitic acid 64 per cent., hypogæic acid 4 per cent., and coccinic acid 3 per cent., in combination with glyceryl as fats, but the first two are present in the free state as well. Long ago it was noted by Dr. Young of Florence that in treating leprosy with this substance bronchial affections were markedly benefited and this was also my experience. No doubt the gynocardic acid has a good deal to do with this but some of the other constituents have a distinct and unmistakeable effect on the nutrition of the skin and the mucous membranes. Cases using the oil systematically never needed tracheotomy for the relief of laryngeal symptoms and a marked fall in pulmonary complications followed its general use; there was a greatly improved appearance of the cuticle generally and it undoubtedly promoted comfort or prolonged life. This was recognised by the more intelligent patients. The results were up to a certain point in my opinion striking. 120 minims three times a day after food can in time be easily borne for long periods, diluted with equal parts of olive oil, or the same quantity can be given in capsules. The changes can be rung by hypodermic injections. As much as ten cubic centimetres of the pure oil diluted with equal parts of olive oil injected into the loose areolar tissue of ree times a week without much inconvenience. It is rapidly absorbed and out of many hundreds of such injections I have not seen one followed by abscess or by unpleasant respiratory symptoms. Accompanying this treatment inunction of the oil, antiseptic lavage of the nasal cavities, and prolonged warm baths make unmistakeable amelioration in the patient's condition. Those who are interested in the subject I would refer to a short paper I wrote in the *South African Medical Record* in 1903, where they will find the whole question discussed in some detail. The results with a substance like chaulmoogra oil are such as to lead us reasonably to hope that a medicinal agent will one day be discovered which will act even more powerfully in leprosy and that its action will be reinforced by means which will raise the general opsonic powers of the blood serum. Indeed, the researches of Wright lead us confidently to anticipate that the latter means of attack on chronic bacterial disease may be definitely developed. Still there can be no doubt that the parasitism of the bacillus lepræ presents problems peculiarly its own. It is the benign character of this bacillus, its non-toxic properties, and the fact that, to some extent, at any rate, it can withstand the enzymic action of the white corpuscle which cause the whole chronicity of the process, an example of the law which has been well enunciated by Theobald Smith that the more parasitic a pathogenic organism becomes the less actively aggressive it is and the more it attempts to establish itself by purely defensive measures. It is the defences which surround it which cause the clinical symptoms of the disease in leprosy. Break these down and the solution of the problem will not be far off.

The utility of x ray treatment is more than doubtful and if any of the favourable results which have been recorded are at all dependent on the dermatitis caused, the outlook is not hopeful in this direction. Erysipelas causes an acute and severe dermatitis in the cases of leprosy which it attacks. I have seen many such cases after repeated erysipelatoid attacks which certainly caused temporary improvement relapse into their former condition. The weakened innervation of the skin in nodular leprosy makes the subject specially prone to the attack of the streptococcus erysipelatos and outbreaks can only be prevented by the most thorough attention to the sanitary condition of wards and buildings.

Till, therefore, we can obtain further light on the pathology and treatment of leprosy it must be combated chiefly by segregation and isolation, making the hardships unavoidable in such a procedure as tolerable as possible. When we remember that the great bulk of the patients in Cape Colony are of the coloured and native races it is evident that this isolation can hardly be arranged on the voluntary Norwegian system, and it must be recognised that in all the circumstances the Government of the colony is doing its best in the interests of the community and the patients to tackle a perplexing problem. It might be supposed that a great deal could be done to reduce the number of those segregated and thus to infuse the afflicted community with some comforting hope as to their future prospects by the discharge of cases when the disease had ceased to be infective. There can be no doubt whatever that this occurs in a large number of the maculo-anæsthetic cases The ulcers and deformities in the old-standing cases of this class are undoubtedly trophic and are caused by the defective innervation of the tissues. Though bacilli can be found in the nerves of very old-standing cases of this nature they are in all probability dead and in any case they are so anatomically entangled that no danger need be feared. The fact is that these cases have long passed the infective stage of nasal ulceration and, strictly speaking, can no longer be considered a source of communication. This, I think, must be freely granted and, indeed, in fairness insisted on. A very few of the nodular cases become arrested. But when we come to consider the discharge of such cases we meet the disappointing fact that a very large number are permanently incapacitated from earning a livelihood, and if not confined in an asylum as certified lepers would have to be supported by the State as chronic sick paupers. The experiment has been tried here on a small scale in a specially selected class of such arrested non infective cases and the results are not very encouraging. Promising cases have been sent back to our asylum with a renewal of their trophic ulcerations or deformities, so that they attracted attention and consequently could not obtain employment. Thus, there exists a very large number of cases who must certainly be defined as extending from the effective opportunity of communication till the first characteristic symptom of invasion appears but of this period in leprosy nothing is with certainty known. What is incorrectly spoken of as the *incubation period is the long period during which the disease* gives rise to no symptoms or appearances which excite suspicion in the minds of the patient or his friends. Significant prodromata are also in my experience very unusual in the vast majority of cases. On looking back the patient usually and pardonably *mistakes some* intercurrent indisposition for an initial symptom of invasion. The so-called leprotic fever is usually merely the lighting up of pre-existent leprous foci in the body by the dilatation of terminal vessels during the course of some intercurrent febrile attack.

Everything, indeed, tends to make it probable that the disease begins (how long after the implantation of the bacilli cannot at present with certainty be known) as a small collection of round cells under the mucosa of some part of the nasal cavity. Some of these round cells which are derived both from leucocytes and from the proliferation of connective tissue corpuscles, implanted bacilli, of course, being the starting point of the protective collection, contain bacilli which pursue some part, at any rate, of their life history in their interior. These bacilli-containing cells may *continue anchored at the* spot or may make their way into the capillary or lymphatic circulation. Their dissemination *to distant organs seems to be mainly by the blood stream,* and they do not with ease pass along the fine lymphatic channels. The comparatively slight implication of the lymphatic gland in this disease is an evidence of the latter statement. Those cells carried away by the blood stream come to anchor in situations where there is a tendency *to intermittent stasis* or slowing, physiological or anatomical, as the case may be, in the fine capillary circulation, and at such situations the process is repeated. *Organs or* systems where there is a rapid, free, and continuous current of blood are thus, as we might expect, practically immune from the leprotic granulomas; notably, accordingly, are the lungs, the brain, and the spinal cord free from attack; and just as we have in leuco*cythæmic conditions* an *infiltration* and enlargement of the liver and spleen, so we have such in leprosy by bacilli-containing leucocytes. The increase in size of these organs may be enormous; while the enlargement of lymphatic glands is slight or practically not noticeable. It is surprising, considering the enormous changes in the spleen *and liver in nodular leprosy,* that the condition of these organs has not attracted more general attention in the literature of the subject. Thin sections of the liver in early nodular leprosy afford the best material for studying the essential pathology of the disease. The whole process is one of obstruction by accumulating foci; the bacilli are not destroyed in the attacking cells, nor do they secrete a toxin sufficiently powerful to cause necrosis *of the enveloping protoplasm, so that localised accumula*tions of bacilli-containing cells take place which, by obstruction and pressure, cause all the symptoms; the process is naturally an exceedingly slow one and subject to periods of regression and quiescence and it is this benign character of the bacillus lepræ which paradoxically explains the chronic intractable nature of the disease and the dreaded deformities. Further research is necessary to elucidate the remarkable selective nature of the *lesions in maculo anæsthetic* leprosy, but it is certain that the neuritis is of pressure, not of toxic origin. Were the latter the case the axis-cylinder destruction in nodular leprosy with its enormous accumulation of bacilli *would be widespread. But the characteristic* absence of coagulative necrosis in itself proves the absence of toxin. In my own hands the injection of concentrated extracts of tissues containing packed infiltration of bacilli produced no appreciable effect on animals.

Though the implication of the nasal region in leprosy has long been known it is only recently that its bearing on the mode of communication of the disease has been suspected. In a nodular case of moderate severity the nasal mucous membrane can be seen studded with ulcerating patches of varying size; besides these, tiny whitish specks can be noticed under the membrane which on microscopic examination may be seen *to consist of minute collections* of round cells surrounding and containing masses of bacilli. It is not unusual to regard these as the earliest stage of the leprotic process and that it is from such a particular minute focus that the disease first begins its spread. The cicatrices of small ulcers which have healed can also be observed. One of the earliest signs of nodular leprosy is a slight erythema of the skin about the root of the nose and eyebrows, some*times extending* to the malar regions, and even with these slight signs extensive ulceration of the nasal mucous membrane may be found with abundant bacilli practically in almost a pure culture.

Questioning the more intelligent patients I have frequently found *that they had very early noticed* nasal obstruction as preceding the symptoms of disease which first caused them anxiety, though naturally they did not recognise the significance of this till it was pointed out to them. I examined the nasal secretion in more than 300 cases and in practically all the nodular and *mixed cases bacilli* were found more or less abundantly and in some of these they were in enormous quantities. Early cases also showed *bacilli from small nasal ulcers* when there was no ulceration on any other part of mucous membranes or on the skin. In nearly 10 per cent. of the early maculo-anæsthetic cases I found bacilli in the nasal secretion and this preponderance in the early maculo-anæsthetic cases seemed to me significant. *A few of the latter cases afterwards showed signs of* becoming mixed cases but this was decidedly in my experience an uncommon course. That bacilli seemed to be more commonly found in the nasal secretion of the earlier maculo-anæsthetic cases suggested a disappearance of nasal ulceration in the old-standing cases of *this type,* so that it would seem reasonable to infer that in such cases the nerve lesions are secondary to the nasal focus, and are originated from *bacilli* which have *migrated* from it through the medium of the vascular current. The original nasal focus had healed and disappeared, leaving the skin and nerve lesions as permanent effects but which are really of a secondary and pathologically subordinate *character. In a sense the original* nasal ulcer would correspond to the primary hard syphilitic sore, which disappears to be followed after a period by secondary symptoms. I offer this not as a case of pathological parallelism but as a suggestive analogy. Why the bacilli or the bacilli-carrying cells should select the very specialised sites they do in certain peripheral nerves needs further elucidation, but we may feel fairly confident that the reason is not physiological *but anatomical and that vascular* entanglement is its basis. In the mixed and nodular varieties the pathological process is a far more active one; there is a more vigorous general reaction of the tissues, as shown by the general leucocytosis and the condition of the liver and spleen. The leucocytosis, *however, defeats its own object* because it spreads the bacilli by means of bacilli-carrying cells in whose substance the bacilli retain their vitality. While clearly seeing the weak points in the above *explanation of the* two varieties of leprosy my experience of the disease leads me to regard it favourably.

Granting the above premisses, it is quite possible that in some individuals the nasal ulceration may be small and transitory and that no secondary lesions may occur or of very trifling nature. I have seen cases of an undoubtedly maculo-anæsthetic nature when there were only two or three small maculæ on *the body with a very slight* contraction of the fifth and fourth digits of one hand and the whole process stationary over some years. A lesser degree of involvement would escape notice, and some of the cases I refer to would certainly have done so but for the reason that they were convicts and therefore had been subjected to a rigid medical scrutiny. In some there were no bacilli in the nasal secretions—at least, none were found after a careful search. It is therefore quite possible that there may exist unrecognised cases where the disease consists practically of slight nasal ulceration alone. Yet such cases may at one period be sources of infection.

From what we know of the variation of virulence in pathogenic bacteria in some diseases it is also quite possible that the virulence of the bacillus lepræ may diminish in infective potency as time goes on while its power *of growth* in the body is retained. These cases may be most infective at the very earliest stage of nasal ulceration when the outward symptoms are least apparent, and certainly some of the *histories of patients* who were in contact with early slight cases lend some colour to this supposition. Certainly great difficulties surround the actual circumstances of the *communication of the disease* from individuals. The fact that it seems almost impossible to *inoculate* animals with the disease shows that there is some very special relation between seed and soil. *Of course,* I am aware that some local growth has been produced by implantation in *monkeys and other* animals but this is a very patient must thus be said to have died from an acute hæmorrhagic septicæmia without evidence of meningitis

It remains to discuss the evidence as to the nature of the coccus. Few Gram-negative cocci are known to be pathogenic for man; the only ones with which I am acquainted are micrococcus catarrhalis, the gonococcus, and the meningococcus. As regards the first two, I know of no recorded case in which they have been proved to cause an acute hæmorrhagic septicæmia such as is known to occur in certain cases of cerebro-spinal fever. The gonococcus could here also be excluded by the characters of the growth on culture media and micrococcus catarrhalis with almost equal certainty. With the help of Dr. M. H. Gordon I tested the organism as regards its metabolic powers on a series of some 18 carbohydrates, glucosides, and alcohols, adding to the culture media a little sterile raw ascitic fluid. An acid reaction was produced with glucose, levulose, galactose, maltose, and dextrin, while mannose, saccharose, lactose, glycerine, mannite, and the other substances tested remained alkaline. These reactions correspond in every detail with those of the meningococcus isolated from cases of *posterior basic meningitis*. The coccus further corresponded in every respect with that organism in its form, size, staining reactions, cultural characters, and pathogenic effects upon the guinea-pig. I therefore feel justified in asserting that it was the classical meningococcus—the diplococcus intracellularis meningitidis of Weichselbaum.

I have ventured to give the details of this case at length because I regard it as one of considerable importance. There is a large body of evidence to show that the infecting agent in epidemic cerebro-spinal fever is the meningococcus and it is known that in this disease hæmorrhages are common and that in severe and fulminant cases they may form the striking feature—that, in fact, there are acute septicæmic cases of the disease, fatal before the typical meningeal symptoms have had time to develop. It is equally well known that a common sporadic form of meningitis in children, not necessarily fatal and associated with a special localisation about the posterior fossa of the base of the brain, is to be traced to an organism indistinguishable from the meningococcus. Many have doubted that two diseases, so different in their *clinical course* and in their distribution, could be due to one and the same organism. Yet here is a case which can be paralleled only by the most fulminant type of epidemic cerebro-spinal fever occurring in a purely sporadic manner with no known connexion with any epidemic of the disease, which I have shown, as I trust, to be due to infection by a micro-organism in every respect identical with that of our ordinary posterior basic meningitis. Acute hæmorrhagic purpura may apparently depend upon a number of different infections and I know not how often the meningococcus may be included amongst them. I offer this case, by the courtesy of Dr. West, as one in which the record is fairly complete.

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VOLVULUS OF THE CÆCUM TREATED BY REDUCTION AND APPENDICOSTOMY,

WITH REMARKS UPON THE OPERATION OF APPENDICOSTOMY.[1]

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THIS communication is of interest, first, because in it is recorded an example of a rare form of intestinal obstruction; and, secondly, because the line of treatment adopted is novel and gives an opportunity, for the first time in Ireland, of discussing a very simple operation which, in my opinion, has a very useful future.

The patient, a married woman, aged 77 years, with a large family, was admitted to Mercer's Hospital, Dublin, on Jan 12th last. She was a very brown skinned, wiry-looking old woman who stated that up to 6 30 P.M. on Jan. 11th she had practically never been ill but that she had always been subject to obstinate constipation. On that evening, whilst at tea with her family, she was suddenly seized with violent pain in the umbilical region and her abdomen became swollen and hard within a few minutes. On the next morning she was seen by Dr. H. Knapp, who administered an enema without result and advised her to go to hospital. This advice was not acted upon until the evening. When I saw her her temperature was normal, her pulse was 120, and she seemed weak after her journey to hospital but said that her pain was less. Examination of the abdomen revealed fulness below the umbilicus, rather more marked on the right side. The muscles were not very rigid but there was distinct tenderness over the distended area. Vaginal and rectal examination gave no further information. A turpentine enema was ordered but the result was again negative; however, as the pulse-rate was distinctly falling we decided to allow the patient to rest before deciding upon operation. On the next morning she felt rather better and the pulse-rate had fallen to 92. During the day it again rose to 108, so I decided to operate. At no time had there been any vomiting. When the abdomen was opened a tensely distended cæcum and ascending colon were seen filling the lower abdomen and pelvis. These were deflated and withdrawn, when it was found that the cæcum and portion of the ascending colon had made a complete turn from below upwards and from right to left. The lower portion of the ileum having been carried in front of the colon was tightly wound around the neck of the strangulated large intestine. The twist having been reduced it was found that the cæcum and colon had a well-formed mesentery, thus rendering volvulus a possible and likely accident. Having closed the incision which had been made for deflation I determined to fix and to drain the cæcum by performing the operation of appendicostomy. In this instance I had to ligate and to divide a portion of the meso-appendix, but took care to leave sufficient blood-supply to the portion near the cæcum. A stab wound was made at the outer border of the rectus and the appendix was drawn through and fixed by two sutures, its distal end was amputated, and its lumen was dilated with sinus forceps. A gum elastic catheter was then passed through it into the cæcum and fixed in position by an encircling ligature. The after-history of the case was uneventful except for some slight suppuration which occurred in the abdominal wound about eight days after operation, evidently due to infection of the incision when the intestine had been opened for deflation.

The after-history of the appendicostomy is of interest. The catheter was left in position for four days, when the bowels were well cleared out by castor oil. From the first a small quantity of fluid fæces and a large quantity of intestinal gas escaped through the catheter, thus keeping the intestines free from gaseous distension and rendering the patient's convalescence most satisfactory. As soon as the appendicostomy had completed its mission it became necessary, or at least advisable, to close the little opening. Up to the present operators who have performed appendicostomy have considered it necessary to open the abdomen and formally to excise the stump of appendix from the cæcum. It occurred to me that this was an unnecessarily severe sequel to such a trivial operation and that simple excision or invagination of the mucous lining of the stump of appendix should suffice as the muscular tube which would be left would soon cicatrise. I found that it was extremely easy to excise the mucous lining by means of a dissecting forceps and a tenotomy knife, the muscular tube healing soundly within a few days.

On March 20th last I again made use of the appendix in this manner in the treatment of a girl, aged 11 years, from whom I had to remove some four feet of small intestine for acute strangulation by an omental band. The chances of the little patient were practically hopeless from the start, but although the event was fatal yet the appendicostomy opening worked well and prevented abdominal distension

I have determined to give this operation a very thorough trial as a *preventive of* distension in emergency intestinal resections or in operations for diffuse or general peritonitis. Up to the present I have sometimes used Paul's glass tube in such, but now I am of opinion that we have found a simpler and equally effective method of preventing ileus. Beyond recording the facts as stated above I have little left to say, as the ground has been taken from under me by Mr. C. R. B. Keetley who has ably dealt with this subject in the *British Medical Journal* of Oct. 7th, 1905, and by Sir William H. Bennett in THE LANCET of Feb. 17th, 1906, p. 419. I may nevertheless mention the indications which these surgeons considered non-infective to whom it would be showing no kindness to discharge, and who if discharged would soon drift back again to the asylum by stress of circumstances or succumb to poverty or starvation. Even if such cases could count on their relatives for support the state of popular feeling is not favourable, and their charitable relatives would in many cases be involved in the social ostracism. A very few are not so incapacitated as to be unable again to take their place in the social environment they previously occupied, and every effort is being made to sift out and discharge under conditions which admit of their subsequent surveillance these hopeful cases.

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[1] A paper read before the Surgical Section of the Royal Academy of Medicine in Ireland on March 23rd, 06

In the light of our present knowledge it is difficult to see what more can be done except to deal as generously as they deserve with those unfortunate people who, in the full possession of their faculties and for no moral offence, are isolated practically for life for the general good. It is certainly doing these people no kindness to suggest to them that they are being dealt with unjustly and ignorantly in the name of science. Such statements have recently been spread broadcast by a regular newspaper propaganda carried on—with the very best intentions no doubt—by Mr. Jonathan Hutchinson and have been the occasion of great discontent and unrest among the unfortunate sufferers and anxiety to the authorities. But in all the circumstances it certainly would seem that a more sustained and continuous effort should be made on behalf of those people in the way of experimental and scientific research in our well-organised asylums which are so suitable for a considered plan. It is almost useless to appoint men, however well qualified, with a roving commission, so to speak, to make discoveries in so wide a field as that of leprosy. The effort should be made in conjunction with a scientific organisation such as one of our flourishing schools of tropical medicine. In coöperation with the Government these schools might periodically send out to our asylums a research scholar or scholars who would under the direction of the scientific staff of the school have a definite objective mapped out for them to attain, if possible, during the period of the research. In the light of my experience some such plan—modifications will easily suggest themselves—is the only way in which we may expect systematised results of practical and scientific value, and I would humbly suggest its consideration to the distinguished medical scientists who are now here to afford us the helpful advice they are so competent to give; indeed, to be helpful in this way is, I take it, one of the principal objects of the British Association in its visits to different parts of the Empire. That the disease can be entirely eradicated no one can for a moment doubt; that inquiry into it and practical efforts for its suppression are not carried on with desirable vigour is certain. Its continued extension in a civilised community can be nowadays regarded in no other light than a stigma. Let us hope that this condition of things may ere long be altered and that by the end of the present century, so far as South Africa is concerned, leprosy may be reckoned among "the poor unhappy far-off days and things of long ago."

Cape Colony.

A CASE OF ACUTE MENINGOCOCCAL SEPTICÆMIA.

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IT is well known that cerebro-spinal fever is often accompanied by cutaneous hæmorrhages. But it is a rare thing for meningococcal infection to be recognised as the cause of a fulminant purpura apart from outbreaks of cerebro-spinal fever. The following case is thus of unusual interest.

The victim was a medical man, 53 years of age, in practice in the City. He was in his usual good health on Feb. 10th and sat up all night with a patient under his care. There had been no contact, so far as is known, with any case of meningococcal infection and no case of cerebro-spinal fever is known to have occurred elsewhere at the time in the City of London. On the following day he seemed quite well; he ate his dinner as usual in the evening and smoked a cigar afterwards, conversing with his friends. It is said that he had a little shivering and malaise that night but on the morning of the 12th he felt ill and did not get up, though he did not think it worth while to send for a medical man. Towards midday he was worse and the appearance of spots on the face caused those who saw him to call in Mr. Alfred Chune Fletcher. Mr. Fletcher called in Dr. Samuel West in consultation and in the course of the afternoon the patient was removed to St. Bartholomew's Hospital under Dr. West's care, being placed in an isolation ward as it was not clear from what infection he was suffering. I am indebted to Dr. West for permission to publish the details of the case.

When I saw the patient about 5.20 P.M. he was in a moribund condition, with a profuse hæmorrhagic purpura from head to foot. The temperature was 99·4° F. and the respirations were 34 per minute; the pulse was not perceptible at the wrist. He was practically unconscious but could be roused to open the eyes which, indeed, he did but a few minutes before his death soon after 6 P.M. There were no evidently meningeal symptoms and death occurred suddenly at the end.

It was evident that the condition was one of a profound septicæmia and steps were taken to ascertain its nature. Dr. J. H. Thursfield prepared a syringe and withdrew blood from the basilic vein less than half an hour before death. At the same time I prepared films of the blood and carried out a leucocyte count. The case was so manifestly a hopeless one that all that could be expected was the melancholy satisfaction of establishing the diagnosis.

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At the post-mortem examination of the patient, performed the day after death by Dr. W. Langdon Brown, the appearances were as follows. In addition to profuse cutaneous hæmorrhages large hæmorrhagic patches were distributed along the mucosa of the intestine. Both suprarenals were in an intensely hæmorrhagic condition, dark purple in colour, swollen, and contrasting strongly with the kidneys, which were but slightly congested. The spleen was quite small and not in any way engorged or dark. There were extensive subarachnoid hæmorrhages, especially over the front and base of the frontal lobes of the brain, but there was no appearance of meningitis, nor on subsequent microscopic examination of the meninges could any evidence of actual meningitis be detected. The extravasated meningeal blood yielded, however, a more profuse growth of the coccus on culture than did blood withdrawn from the heart. The patient must thus be said to have died from an acute hæmorrhagic septicæmia without evidence of meningitis.

It remains to discuss the evidence as to the nature of the coccus. Few Gram-negative cocci are known to be pathogenic for man; the only ones with which I am acquainted are micrococcus catarrhalis, the gonococcus, and the meningococcus. As regards the first two, I know of no recorded case in which they have been proved to cause an acute hæmorrhagic septicæmia such as is known to occur in certain cases of cerebro-spinal fever. The gonococcus could here also be excluded by the characters of the growth on culture media and micrococcus catarrhalis with almost equal certainty. With the help of Dr. M. H. Gordon I tested the organism as regards its metabolic powers on a series of some 18 carbohydrates, glucosides, and alcohols, adding to the culture media a little sterile raw ascitic fluid. An acid reaction was produced with glucose, levulose, galactose, maltose, and dextrin, while mannose, saccharose, lactose, glycerine, mannite, and the other substances tested remained alkaline. These reactions correspond in every detail with those of the meningococcus isolated from cases of posterior basic meningitis. The coccus further corresponded in every respect with that organism in its form, size, staining reactions, cultural characters, and pathogenic effects upon the guinea-pig. I therefore feel justified in asserting that it was the classical meningococcus—the diplococcus intracellularis meningitidis of Weichselbaum.

I have ventured to give the details of this case at length because I regard it as one of considerable importance. There is a large body of evidence to show that the infecting agent in epidemic cerebro-spinal fever is the meningococcus and it is known that in this disease hæmorrhages are common and that in severe and fulminant cases they may form the striking feature—that, in fact, there are acute septicæmic cases of the disease, fatal before the typical meningeal symptoms have had time to develop. It is equally well known that a common sporadic form of meningitis in children, not necessarily fatal and associated with a special localisation about the posterior fossa of the base of the brain, is to be traced to an organism indistinguishable from the meningococcus. Many have doubted that two diseases, so different in their clinical course and in their distribution, could be due to one and the same organism. Yet here is a case which can be paralleled only by the most fulminant type of epidemic cerebro spinal fever occurring in a purely sporadic manner with no known connexion with any epidemic of the disease, which I have shown, as I trust, to be due to infection by a micro-organism in every respect identical with that of our ordinary posterior basic meningitis. Acute hæmorrhagic purpura may apparently depend upon a number of different infections and I know not how often the meningococcus may be included amongst them. I offer this case, by the courtesy of Dr. West, as one in which the record is fairly complete.

Pathological Laboratory, St. Bartholomew's Hospital, E.C.

VOLVULUS OF THE CÆCUM TREATED BY REDUCTION AND APPENDICOSTOMY,

WITH REMARKS UPON THE OPERATION OF APPENDICOSTOMY.[1]

BY R. CHARLES B. MAUNSELL, M.B. DUB.,
F.R.C.S. IREL.,
MEMBER OF COUNCIL, ROYAL COLLEGE OF SURGEONS IN IRELAND,
SURGEON TO MERCER'S HOSPITAL, DUBLIN.

THIS communication is of interest, first, because in it is recorded an example of a rare form of intestinal obstruction; and, secondly, because the line of treatment adopted is novel and gives an opportunity, for the first time in Ireland, of discussing a very simple operation which, in my opinion, has a very useful future.

The patient, a married woman, aged 77 years, with a large family, was admitted to Mercer's Hospital, Dublin, on Jan. 12th last. She was a very brown-skinned, wiry-looking old woman who stated that up to 6 30 P.M. on Jan. 11th she had practically never been ill but that she had always been subject to obstinate constipation. On that evening, whilst at tea with her family, she was suddenly seized with violent pain in the umbilical region and her abdomen became swollen and hard within a few minutes. On the next morning she was seen by Dr. H. Knapp, who administered an enema without result and advised her to go to hospital. This advice was not acted upon until the evening. When I saw her her temperature was normal, her pulse was 120, and she seemed weak after her journey to hospital but said that her pain was less. Examination of the abdomen revealed fulness below the umbilicus, rather more marked on the right side. The muscles were not very rigid but there was distinct tenderness over the distended area. Vaginal and rectal examination gave no further information. A turpentine enema was ordered but the result was again negative; however, as the pulse-rate was distinctly falling we decided to allow the patient to rest before deciding upon operation. On the next morning she felt rather better and the pulse-rate had fallen to 92. During the day it again rose to 108, so I decided to operate. At no time had there been any vomiting. When the abdomen was opened a tensely distended cæcum and ascending colon were seen filling the lower abdomen and pelvis. These were deflated and withdrawn, when it was found that the cæcum and portion of the ascending colon had made a complete turn from below upwards and from right to left. The lower portion of the ileum having been carried in front of the colon was tightly wound around the neck of the strangulated large intestine. The twist having been reduced it was found that the cæcum and colon had a well-formed mesentery, thus rendering volvulus a possible and likely accident. Having closed the incision which had been made for deflation I determined to fix and to drain the cæcum by performing the operation of appendicostomy. In this instance I had to ligate and to divide a portion of the meso-appendix, but took care to leave sufficient blood-supply to the portion near the cæcum. A stab wound was made at the outer border of the rectus and the appendix was drawn through and fixed by two sutures, its distal end was amputated, and its lumen was dilated with sinus forceps. A gum elastic catheter was then passed through it into the cæcum and fixed in position by an encircling ligature. The after-history of the case was uneventful except for some slight suppuration which occurred in the abdominal wound about eight days after operation, evidently due to infection of the incision when the intestine had been opened for deflation.

The after-history of the appendicostomy is of interest. The catheter was left in position for four days, when the bowels were well cleared out by castor oil. From the first a small quantity of fluid fæces and a large quantity of intestinal gas escaped through the catheter, thus keeping the intestines free from gaseous distension and rendering the patient's convalescence most satisfactory. As soon as the appendicostomy had completed its mission it became necessary, or at least advisable, to close the little opening. Up to the present operators who have performed appendicostomy have considered it necessary to open the abdomen and formally to excise the stump of appendix from the cæcum. It occurred to me that this was an unnecessarily severe sequel to such a trivial operation and that simple excision or invagination of the mucous lining of the stump of appendix should suffice as the muscular tube which would be left would soon cicatrise. I found that it was extremely easy to excise the mucous lining by means of a dissecting forceps and a tenotomy knife, the muscular tube healing soundly within a few days.

On March 20th last I again made use of the appendix in this manner in the treatment of a girl, aged 11 years, from whom I had to remove some four feet of small intestine for acute strangulation by an omental band. The chances of the little patient were practically hopeless from the start, but although the event was fatal yet the appendicostomy opening worked well and prevented abdominal distension

I have determined to give this operation a very thorough trial as a preventive of distension in emergency intestinal resections or in operations for diffuse or general peritonitis. Up to the present I have sometimes used Paul's glass tube in such, but now I am of opinion that we have found a simpler and equally effective method of preventing ileus. Beyond recording the facts as stated above I have little left to say, as the ground has been taken from under me by Mr. C. R. B. Keetley who has ably dealt with this subject in the *British Medical Journal* of Oct. 7th, 1905, and by Sir William H. Bennett in THE LANCET of Feb. 17th, 1906, p. 419. I may nevertheless mention the indications which these surgeons considered non-infective to whom it would be showing no kindness to discharge, and who if discharged would soon drift back again to the asylum by stress of circumstances or succumb to poverty or starvation. Even if such cases could count on their relatives for support the state of popular feeling is not favourable, and their charitable relatives would in many cases be involved in the social ostracism. A very few are not so incapacitated as to be unable again to take their place in the social environment they previously occupied, and every effort is being made to sift out and discharge under conditions which admit of their subsequent surveillance these hopeful cases.

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[1] A paper read before the Surgical Section of the Royal Academy of Medicine in Ireland [illegible] 03

In the light of our present knowledge it is difficult to see what more can be done except to deal as generously as they deserve with those unfortunate people who, in the full possession of their faculties and for no moral offence, are isolated practically for life for the general good. It is certainly doing these people no kindness to suggest to them that they are being dealt with unjustly and ignorantly in the name of science. Such statements have recently been spread broadcast by a regular newspaper propaganda carried on—with the very best intentions no doubt—by Mr. Jonathan Hutchinson and have been the occasion of great discontent and unrest among the unfortunate sufferers and anxiety to the authorities. But in all the circumstances it certainly would seem that a more sustained and continuous effort should be made on behalf of those people in the way of experimental and scientific research in our well-organised asylums which are so suitable for a considered plan. It is almost useless to appoint men, however well qualified, with a roving commission, so to speak, to make discoveries in so wide a field as that of leprosy. The effort should be made in conjunction with a scientific organisation such as one of our flourishing schools of tropical medicine. In coöperation with the Government these schools might periodically send out to our asylums a research scholar or scholars who would under the direction of the scientific staff of the school have a definite objective mapped out for them to attain, if possible, during the period of the research. In the light of my experience some such plan—modifications will easily suggest themselves—is the only way in which we may expect systematised results of practical and scientific value, and I would humbly suggest its consideration to the distinguished medical scientists who are now here to afford us the helpful advice they are so competent to give; indeed, to be helpful in this way is, I take it, one of the principal objects of the British Association in its visits to different parts of the Empire. That the disease can be entirely eradicated no one can for a moment doubt; that inquiry into it and practical efforts for its suppression are not carried on with desirable vigour is certain. Its continued extension in a civilised community can be nowadays regarded in no other light than a stigma. Let us hope that this condition of things may ere long be altered and that by the end of the present century, so far as South Africa is concerned, leprosy may be reckoned among "the poor unhappy far-off days and things of long ago."

Cape Colony.

A CASE OF ACUTE MENINGOCOCCAL SEPTICÆMIA.

BY F. W. ANDREWES, M.D. OXON., F.R.C.P. LOND., D.P.H. CANTAB,

PATHOLOGIST AND LECTURER ON PATHOLOGY, ST. BARTHOLOMEW'S HOSPITAL.

IT is well known that cerebro-spinal fever is often accompanied by cutaneous hæmorrhages. But it is a rare thing for meningococcal infection to be recognised as the cause of a fulminant purpura apart from outbreaks of cerebro-spinal fever. The following case is thus of unusual interest.

The victim was a medical man, 53 years of age, in practice in the City. He was in his usual good health on Feb. 10th and sat up all night with a patient under his care. There had been no contact, so far as is known, with any case of meningococcal infection and no case of cerebro-spinal fever is known to have occurred elsewhere at the time in the City of London. On the following day he seemed quite well; he ate his dinner as usual in the evening and smoked a cigar afterwards, conversing with his friends. It is said that he had a little shivering and malaise that night but on the morning of the 12th he felt ill and did not get up, though he did not think it worth while to send for a medical man. Towards midday he was worse and the appearance of spots on the face caused those who saw him to call in Mr. Alfred Chune Fletcher. Mr. Fletcher called in Dr. Samuel West in consultation and in the course of the afternoon the patient was removed to St. Bartholomew's Hospital under Dr. West's care, being placed in an isolation ward as it was not clear from what infection he was suffering. I am indebted to Dr. West for permission to publish the details of the case.

When I saw the patient about 5.20 P.M. he was in a moribund condition, with a profuse hæmorrhagic purpura from head to foot. The temperature was 99·4° F. and the respirations were 34 per minute; the pulse was not perceptible at the wrist. He was practically unconscious but could be roused to open the eyes which, indeed, he did but a few minutes before his death soon after 6 P.M. There were no evidently meningeal symptoms and death occurred suddenly at the end.

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A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

RADCLIFFE INFIRMARY, OXFORD.

A CASE OF PICRIC ACID POISONING, FOLLOWED BY SEVERE CONSTITUTIONAL SYMPTOMS.

(Under the care of Mr. E. C. BEVERS.)

FOR the notes of the case we are indebted to Dr. E. J. Elliot, house physician.

A girl, aged 14 years, was admitted to the Radcliffe Infirmary, under the care of Mr. E. C. Bevers, on Sept. 27th, 1905, having been scalded by boiling water. On examination both elbows and a considerable area of the arms above and below were found to be burnt. There were also slight burns on the forehead, round the right ear, and at the back of the neck. The burns of the arms were partly of the second and partly of the third degree; that of the face was of the second degree. Extensive blebs had formed over all the areas. The blebs were pricked and the wounds were dressed every second day with a saturated solution of picric acid.

The patient progressed favourably until the morning of Oct. 4th, when she complained of not feeling well. Her tongue was furred, the lips were dry, and the expression was anxious. She was sick on several occasions during the day. Her temperature, previously normal, rose to 102·4°F. and the pulse from 88 to 154. The respirations were 24. The conjunctivæ showed a yellowish tinge, especially towards the outer and inner canthus of the eye, and the whole skin had a slightly icteric tint. A rash was found over most of the body. It was bright red in tint, papular, and non-hæmorrhagic. The papules were partly discrete and partly confluent, the whole having somewhat the appearance of a measles rash. It was distributed in the discrete form over part of the neck, the whole of the chest, the abdomen, and the back, the arms as far as the wrists, the front of the thighs, and a few patches over each ankle and over the toes. It was well marked and confluent over the sides of the chest, both buttocks, the back of the thighs, the calves, and the insides of the knees There was no rash on the face, the hands, or the front of the legs. The urine passed that morning was acid, with a specific gravity of 1022. It was clear and of a bright red colour, with a greenish shimmer on the surface. The blood was examined and a considerable diminution in the number of red blood cells was found, with some increase of the eosinophile leucocytes. The burns themselves were healing satisfactorily. The dressing was changed to spread boric ointment, as it was suspected that the patient's symptoms were due to the picric dressing. On Oct. 5th the temperature had fallen to 100·1° and the pulse to 130. The patient seemed better but the sickness still continued. The rash was more pronounced and more confluent. The conjunctivæ were a deeper yellow and the urine was of dark orange-brown colour with a large deposit of urates. On the 6th the temperature was 99·1° and the pulse was 96 The rash was beginning to fade. In parts there was evidence of slight hæmorrhages into the papules. The conjunctivæ were not so yellow. The urine was of the same colour. The rash continued to disappear gradually from this date, being invisible by the 12th.

The patient progressed favourably till Oct. 14th, when she was again seized with vomiting and looked ill. She complained of pain in the abdomen which was tender on palpation. The temperature remained normal. The bowels were opened with an enema. There was no blood in the stools or in the vomit. The pain was very severe and one-sixth of a grain of morphine hypodermically was needed to obtain relief She improved in a day or two and was discharged on Oct 24th. About four days before leaving the hospital she developed a small petechial rash on the lower part of the legs. The patient remained quite well at home for a week, but on Nov. 1st she felt the pain again in the "stomach" and was sick three times. No blood was noticed in the vomit. On Nov. 3rd she was re-admitted to the Radcliffe Infirmary under Dr. W. Collier. She was obviously extremely ill. There was severe abdominal pain which needed morphine to allay it. During the next three days she showed no improvement. She vomited blood, passed blood in the stools, and the urine was smoky and gave the blood reaction with guaiacum. Only a few petechiæ appeared on the forearms. On Nov. 7th she was a little better and subsequently made a rapid improvement and went home again on the 29th quite well, with the exception of a cloud of albumin in the urine.

Remarks by DR. ELLIOT.—Owing to the extensive use of picric acid as a dressing for burns and to the small number of cases published in which toxic symptoms have been observed it has occurred to me that this case is of sufficient interest to be placed on record. The general aspect of the patient, the vomiting, temperature, rapid pulse, and rash all pointed to some profound constitutional disturbance and it will be noticed that these symptoms only supervened after applying the picric dressing for seven days and ceased on the dressing being discontinued.

The points of interest with regard to the rash were: 1. Its resemblance in many respect to a measles rash; it was absent, however, from the face and behind the ears. 2. It was extremely well marked and confluent in those parts of the body in contact with each other and also where subjected to pressure.

The urine was examined by Dr. W. Ramsden, of the Oxford Physiological Department, whose report was as follows:—"The first sample of ——'s urine (Oct. 4th) was rich with some abnormal pigment. Subsequent samples were abnormal *only in the quantity* of the normal constituents. The abnormal pigment was carried down with the earthy phosphates precipitated by heat, the precipitate having a rich brown colour. It seemed probable, therefore, that it would turn out to be hæmatoporphyrin. I carefully followed Garrod's instructions for the detection of hæmatoporphyrin in the urine. The result was entirely negative. I have also tested carefully for methæmoglobin and hæmatin and find neither of these substances. Blood pigments and their simple derivatives are therefore absent. What the abnormal pigment is I am unable to determine. The existence of various urinary pigments about which nothing else is known is beyond question. Presumably it is one of these and its identification would require an elaborate research and a much larger quantity of urine than I possess." The examination of the blood and urine, combined with the icteric tint of the skin and conjunctivæ of the patient, would seem to point to a toxic condition in which destruction of blood corpuscles had taken place.

In previous cases which I have been able to find recorded in the medical journals very similar symptoms have been observed—viz., severe constitutional disturbance, rapid pulse, rise of temperature, rash, and yellow tint of conjunctiva and skin. One case showed vomiting and diarrhœa. Another showed all the above symptoms except the rash. In all cases the urine has been described as of a dark red, dark green, or port-wine colour, and in all the symptoms have abated on discontinuation of the dressing. From the occurrence of such symptoms as the above there seems to be reason for believing that the use of the saturated solution of picric acid as a dressing for burns is not without its dangers.

BEDFORD COUNTY HOSPITAL.

A CASE OF MOVEABLE LIVER AND VENTRAL HERNIA; HEPATOPEXY AND PLASTIC OPERATION ON THE ABDOMINAL WALL.

(Under the care of Mr. W. GIFFORD NASH.)

A WOMAN, aged 43 years, was admitted to hospital on May 30th, 1903, complaining of abdominal pain, discomfort, and weakness which made her life miserable. She had had eight children and her abdominal wall had bulged since her fifth confinement 11 years previously to admission.

On examination the patient was a thin woman, looking at least ten years older than her age. The uterus prolapsed when she stood up. The liver was displaced downwards, so that its lower edge was on a level with the umbilicus; it was freely moveable and could be pushed up into its normal position. The right kidney was freely moveable.

enumerate and bring this communication to a close with my own appreciation of this attempt to turn the appendix from its evil ways and to make it a useful member of the community of abdominal viscera. Mr. Keetley has collected all the records of this operation, from R. F. Weir's pioneer case down to the date of his communication, and suggests the following as indications: 1. Mucous colitis. 2. Dysentery. 3. Chronic ulceration of the colon. 4. Chronic constipation. In these conditions the opening is used for lavage and medication. 5. To fix and to drain an ileo-cæcal intussusception. 6. To drain and to prevent distension subsequent to operations for intestinal obstruction or when intestinal resection has been performed. In these instances it is used as a prophylactic measure. Sir William Bennett enlarges this list by including the following suggestions: (1) as a method of applying local treatment in complicated enteric fever, as suggested by Dr. W. Ewart; (2) as an improvement upon rectal feeding; and (3) as a substitute for gastrostomy or jejunostomy in very weak and emaciated patients.

I most heartily concur with all these suggestions and have here recorded the further indication of fixation of a volvulus of the cæcum and suggest that it should also receive an exhaustive trial as an aid in the treatment of diffuse or general peritonitis, arising from any cause, when a paretic condition of the intestines is present.

Dublin.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THREE CASES ILLUSTRATING OBSTRUCTION OF THE SUBMAXILLARY DUCT.

BY O. EICHHOLZ, M.D. OXON.

I HAVE within the last eight years observed three cases of affection of the submaxillary gland or duct of a mild character and the simplicity of the treatment is the chief feature that warrants publication. They were all different varieties, moreover. I do not know how frequently such cases occur in the practice of other medical men and a perusal of English and foreign text-books throws no light on this point. Two of my cases concerned the salivary duct of Wharton and in the third case this duct was apparently unaffected.

In the first case the symptoms came on suddenly and I am able to give the symptoms with absolute certainty and precision. There was a feeling of irritation in the floor of the mouth on the side affected and a feeling of tension along the line of Wharton's duct supervened with remarkable suddenness. The swelling of the gland was slight. On examination a few minutes afterwards the orifice of the duct was seen to be blocked by a pale yellowish mass about one millimetre in diameter. There was no difficulty in expressing it and on examination it proved to be of the consistence of putty and malodorous. The same symptoms occurred about a year afterwards and the same treatment was adopted. No recurrence has taken place since (eight years ago).

In the second case the patient found a swelling appearing suddenly in the position of the submaxillary gland externally one evening in December, 1904. I saw him on the following evening, the swelling being still present. It was distinctly tender and was said to become larger while eating. On questioning him he admitted feeling some discomfort under the tongue, as if there were a hair irritating the mouth. There was no difficulty in seeing that a hair was protruding from the papilla of Wharton's duct and it was readily extracted by the fingers, with the aid of a pocket handkerchief to obtain a firmer hold. The hair was about three-quarters of an inch long and the portion embedded in the duct was seen to be encrusted with hard mineral matter. In this case, there was therefore a salivary calculus which had formed round a hair of the moustache which had penetrated the orifice of Wharton's duct and passed along it to the extent of about half an inch. I advised the patient to avoid biting his moustache and no further recurrence has taken place up to the present.

In my third case the only symptom was swelling and some tenderness of the submaxillary gland in a boy, aged 14 years. The sudden appearance of the swelling pointed to some blocking of the duct of the gland but examination of the floor of the mouth did not reveal its nature and I therefore came to the conclusion that the obstruction was situated in the substance of the gland. The treatment adopted was to paint the skin with glycerine of belladonna and apply a fomentation. The swelling and discomfort disappeared by adopting these measures as quickly as they had appeared, the whole episode occupying under three days, and no recurrence has taken place. It is nearly two years since the above occurred.

There must be some doubt as to the precise cause of the swelling in this case as no plug or calculus appeared. It is possible that the obstruction may have been extruded spontaneously; according to Bergmann[1] a stone may suddenly make its appearance in the mouth, as during a meal, without having manifested its presence before, but such an event is said to be exceptional, whereas according to Da Costa[2] small concretions are often passed. It is of course possible that the blockage was the result of inflammation. The diagnosis of such cases as I have here recorded ought to present no difficulty. The sudden swelling of the salivary gland with the possible occurrence of a stone, foreign body, or plug of inspissated mucus or caseous-looking material in the duct are quite characteristic, while the almost immediate subsidence of the tumour when the obstruction is removed (as in my two earlier cases) allays the not inconsiderable alarm which these trivial affections cause the patient to feel.

Russell-road, W.

A CASE OF COMPLETE "SPONTANEOUS INVERSION" OF THE UTERUS.

BY G. S. MCKAY, M.B. ABERD.

ON Jan. 29th, 1906, I was called to a primipara the first two stages of whose labour were normal, but about 15 minutes after the birth of the child the patient with a strain expelled the placenta adhering to what appeared at first sight to be a tumour. A sulcus demarcated the point of attachment of the placenta to this mass. No fundus uteri could be felt in the abdomen but the hollow in its place was quite palpable. Having the following data—namely, (1) a distinct hollow in the abdomen in the place of the fundus uteri; and (2) a mass outside the vagina—I came to the conclusion that the case must be one of inverted uterus. The hæmorrhage being now very profuse I seized the neck of the inverted uterus, which lay outside the vagina, and by gentle pressure between the thumb and forefinger of the left hand the bleeding was controlled until I detached the adherent placenta with the right hand. The uterus was reinverted by pressure and counter-pressure between the two hands and slipped into its proper position not unlike the reinversion of a collapsed indiarubber ball. As the interior of the uterus might have undergone septic contamination from extraneous sources I washed it out with antiseptic lotion. The uterus soon contracted to the size of a cricket ball, firm and hard. The patient complained of little beyond a peculiar faintness until two hours after the reinversion, when she became very pallid and lost consciousness. She remained unconscious for a short time and had two such attacks during the day. After careful watching and guarding of the uterus, injections of salt solution, hypodermic injections of strychnine and ergot, and general treatment for hæmorrhage, the pulse, which was at first rapid and thready, gradually improved. During the next nine days the patient's temperature never exceeded 99·2° F. She made a good but slow recovery and is now quite well. She does not complain of any dragging abdominal pain and feels quite comfortable.

Wetherby.

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[1] System of Practical Surgery.
[2] Modern Surgery.

mediastinal glands, four cases; primary sarcoma or cancer of the mediastinal glands or thymus, six cases; primary cancer of the lungs, six cases; and sarcoma of the pleura, one case. The complications included pleuritic effusion in six cases, in two of which it was hæmorrhagic; and invasion of the vertebral canal by growth in six cases causing paraplegia of sudden onset in four and of gradual onset in two cases. The secondary changes in the lungs were illustrated by drawings; the earlier symptoms in these cases were pain and cough, and the later—cancer of the lung (three cases)—sanguineous expectoration. Physical signs of intrathoracic pressure were present in 13 cases. The remaining physical signs and the duration of life were discussed and a short account of the individual cases was given.

Mr. A. Betts Taplin in his report on Treatment by Hypnotic Suggestion said that hypnotism had been evolved in the past from such a labyrinth of superstition and nonsense that he almost felt inclined to apologise for introducing the subject to the notice of a professional audience as an acknowledged branch of therapeutics. Its history during the last 170 years was full of absorbing, even of tragic, interest here and there, and was ably told in the works of many medical men, both in England and on the continent. Hypnotism was generally acknowledged by all observers to be a physiological and not a pathological condition, and to be absolutely free from danger in competent hands. It had been found most useful in those many cases which were the despair of the profession and which were characterised by pain, spasm, or other nervous phenomena, in which no organic cause could be found and for which no other therapeutic measures seemed to be of any avail. The time for its study and reception by the medical profession was ripe and to prevent its possible abuse in ignorant or unscrupulous hands it was much to be desired that as soon as possible its use should be limited by legal enactment to properly qualified persons under proper control.—Dr. Grossmann thought that no advance had been made in our knowledge of the subject for 20 years. The account he had given before the Medical Institution 18 years ago was based on a visit to Professor Charcot at the Salpêtrière and a stay at Nancy where he studied the methods and saw the patients of Dr. Liébault and Professor Bernheim. Professor Charcot's patients were all hysterical, while at Nancy every sort of patient was treated. Three phases were distinguished—lethargy, catalepsy, and somnambulism. The Nancy school recognised nine different degrees of susceptibility ending with somnambulism followed by amnesia. All the phenomena were explained by suggestion and the modes of producing the various stages of hypnosis employed by the Paris school were recognised as suggestions. The Nancy school considered the hypnotic state as analogous to sleep with the difference that the subject was *en rapport* with the operator, hearing and understanding him. Dr. Grossmann had no difficulty in hypnotising subjects, but he had never seen any therapeutic results in his cases—paralyses of ocular muscles, restricted fields of vision, &c.—nor had he himself seen the extraordinary trophic phenomena, blisters and burns, so graphically described by Professor Krafft-Ebing. It was always a difficult matter to find out how far the subject was really under the influence of the operator and to what extent he was shamming. For his own part he thought Braid's motto, "Unlimited scepticism is equally the child of imbecility as implicit credulity," was all very well but the following one was safer: "When you see a fact, doubt it."—Mr. A. E. Davis agreed that subjects often deceived the hypnotiser but could not accept the statement made by one of the speakers that hypnosis was produced in hysterical neurotic soil which, in his experience, was the least fruitful of all; he agreed with the theory of the late F. W Myers that the phenomena were produced in the subliminal consciousness, which was supported by the fact that the acuity of the senses could be enormously increased. He pointed out that of the 13 patients mentioned by Mr. Taplin two only were males. The objection of males to try hypnotism was a great drawback to its practice and study. Though he believed it was not possible to instil viciousness into a subject who had no natural inclination to it the dangers of being *en rapport* with some women subjects were obvious. He had repeatedly produced trophic changes. Convulsions in hysterical subjects could be obviated by self-confidence and knowledge on the part of the hypnotiser.—Dr. S. M. Whitaker said that a better description of the treatment would be "treatment by suggestion with or without hypnosis," for it was usually unnecessary to hypnotise the patient more deeply than the lightest lethargic stage when he would accept suggestions and the operator could obtain good therapeutic results. During treatment there should be no distracting sounds and sights. He used the method of "monotony." The cases suitable for this treatment were those in which there was functional disturbance, including most cases of organic lesion, and so far as this element existed it was possible to benefit the patient. He had obtained excellent results in the attacks of palpitation of exophthalmic goitre, headache, insomnia, and pain generally. Owing to the depth of hypnosis required for general anæsthesia the method was not likely to compete with ordinary anæsthetics.—Mr. O. T. Street said probably all were agreed that there was such a thing as hypnotism but were divided as to its usefulness. He asked, "Was not treatment by suggestion without hypnotism preferable?" Those who worked among the insane knew what beneficial results could be produced by suggestion, how the melancholic was encouraged to look on the brighter side of things, how the maniac was calmed by suggestion and example, and how it could be suggested to the hysterical that she could exercise self-control if she tried. The result from this form of treatment might be slow but it was certainly more sure and lasting than that produced by hypnotism.—Dr. T. R. Glynn, Dr. Stanley A. Gill, and Dr. W. B. Warrington also took part in the discussion.

FORFARSHIRE MEDICAL ASSOCIATION.—The last ordinary meeting of this society for the present session was held in Dundee on April 6th, Dr. R. Sinclair, the President, being in the chair.—Mr. D. M. Greig showed a man, aged 68 years, after operation by Evagination of the Testicle for Large Double Hydrocele, with a stereoscopic photograph of the condition before operation. He emphasised the simplicity and safety of the operation and expressed surprise that the certainty of a radical cure had not led to a more general appreciation of its merits.—Mr. Greig also showed an infant who had at birth an Occipital Meningocele larger than its head. The cyst collapsed at birth but soon refilled and at the age of five and a half weeks Mr. Greig successfully removed the tumour. A stereoscopic photograph of the condition at the time of operation was exhibited and the actual tumour was demonstrated.—A third case shown by Mr. Greig was one of Morphœa of the Right Forearm associated with contraction and atrophy of the muscles in the upper half of the limb attached to the external condyle of the humerus. The patient was a woman aged 80 years and had a history of only slight injury. The hand was in good condition, though no pulsation could be felt in any of the vessels at the wrist, and the affection seemed to implicate the musculo-cutaneous nerve in its distribution to the skin and the musculo-spiral nerve in its distribution to the muscles and the radial as regards sensation. Mr. Greig expressed the opinion that the condition was primarily a nerve affection and pointed out the incongruity of the distribution with a vascular derangement.—Professor J. A. O. Kynoch showed a specimen of Carcinoma of the Uterus removed by vaginal hysterectomy from an unmarried woman, aged 56 years. The disease, which had been confirmed by microscopical examination, was confined to the endometrium. In contrast to this was a specimen of carcinoma in which the whole body of the uterus was involved except a small part at the fundus. A third uterus which showed a condition of diffuse adenoma of the endometrium with a suspicious character on microscopic examination had also been removed by vaginal hysterectomy. He also showed an ovarian cyst with torsion of the pedicle which had produced symptoms calling for immediate operation in a young multipara 14 days after a normal confinement. A fibroid removed from the anterior wall of the uterus after a previous operation by removal of the appendages which had no effect in checking the excessive hæmorrhage, the most prominent symptom, was also shown. The second operation was successful in giving relief.—Professor D. MacEwan read a paper on the Local Treatment of Surgical Tuberculosis. In introduction he emphasised the importance of constitutional as an adjunct to local treatment and pointed out the desirability of extending the modern sanatorium method to the hospital class of cases and stated that the natural tendency to cure of tuberculosis in bone and joints was probably greater than in pulmonary tuberculosis. In many cases he considered that it was advisable to combine the open-air treatment with complete bodily rest in the

When lying down the abdominal wall was extremely flaccid and the recti muscles were widely separated; but when the patient raised herself the intestines bulged forwards between the recti, causing a large ventral hernia measuring nine inches vertically by four laterally. There was present a marked condition of enteroptosis. To remedy this condition suture of the liver and repair of the ventral wall were decided upon.

Operation was performed on June 15th. An incision was made in the middle line about nine inches in length, commencing six inches above the umbilicus. The liver was pushed up and kept in place by four buried celluloid thread sutures, small button-hole skin incisions being made for this purpose over the sites of the sutures. The edge of the liver was thinned out and more fibrous and tougher than usual. The ventral bulging was dealt with by excising a large elliptical piece of skin and peritoneum. The wound was closed by suturing in three layers the peritoneum, the rectus sheath and muscle, and the skin.

The patient made an excellent recovery and when seen at the end of 1905 the liver remained fixed in its normal position and the median incision was quite firm. She had immensely improved in condition and health and looked years younger than before operation.

Remarks by MR. GIFFORD NASH.—In THE LANCET of April 7th, 1906, p. 949, Mr. W. Watson Cheyne related two cases of hepatopexy and remarked on the small number of cases of operation recorded in medical literature. Dr. H. D. Rolleston also, in his work on "Diseases of the Liver," p. 35, mentions that Terrier and Auvray collected 15 cases of hepatopexy with 11 cures. Quincke, in the article on Diseases of the Liver in "Nothnagel's Practice," p. 398, suggests excising a wedge-shaped piece of the abdominal wall in the region of the linea alba.

The case I have related above was evidently an example of rotation of the liver on its transverse axis, so that the upper surface was in contact with the anterior abdominal wall. It was part of a general enteroptosis due to loss of muscular tone and stretching of the abdominal wall. The comparatively simple operation produced the most beneficial results.

Medical Societies.

LIVERPOOL MEDICAL INSTITUTION.

Sarcoma of Left Iliac Region.—Early Human Embryos.—Aneurysm of Ascending Aorta.—Villous Tumour.—Spinal Conditions leading to Acute Paraplegia.

A PATHOLOGICAL meeting of this society was held on April 5th, Mr. F. T. PAUL, the President, being in the chair.

After the exhibition of a large number of card specimens the PRESIDENT showed a patient with a Sarcoma of the Left Iliac Region which had remained stationary for 12 months; a piece had been removed for microscopical examination.

Dr. K. A. GROSSMANN showed Four Early Human Embryos collected for the purpose of embryological examination of the development of the eye. They were of about six, seven, eight, and nine weeks respectively and were all complete in amnion and with one exception in chorion also.

Dr. JOHN HAY showed a specimen of Aneurysm of the Ascending Arch of the Aorta which had ruptured at its posterior portion into the superior vena cava. The rupture caused sudden loss of consciousness and intense cyanosis with distension of the veins of the head and neck, shoulders, arms, and the upper half of the trunk. The patient recovered consciousness shortly after admission to hospital but died in 60 hours.

The PRESIDENT read a note on three cases of Papillomatous Growth, one of widespread villous tumour of the urinary organs, one of villous tumour of the rectum, and one of a large rapidly growing papilloma of the tongue believed to be malignant but ultimately proved to be innocent. Villous tumour of the bladder he believed to be primarily innocent with a marked tendency to become malignant; only favourable cases were permanently cured, some became cancerous, and others seeded themselves over the adjacent mucous membranes. Villous tumour of the rectum was almost invariably carcinoma from the first but being more accessible and less malignant than cancer of the bladder was frequently permanently cured by operation. Papilloma of the tongue was perhaps always innocent primarily but had an inveterate tendency towards malignant change in course of time. In discussing the value of reports by expert pathologists on the nature of new growths, he said that in difficult cases it was frequently impossible to decide, as was constantly done, on microscopical appearances alone; such reports were frequently wrong. It was necessary to consider the clinical and pathological evidence together and he strongly supported the suggestion recently made by Mr. A. W. Mayo Robson that in important cases the pathologist and surgeon should meet in consultation.

Dr. W. B. WARRINGTON gave a short sketch of the Pathological Conditions in the Spinal Cord leading to Acute Paraplegia. This might be due to a primary vascular disturbance, hæmorrhage, thrombosis, embolism, or the cause might be a primary inflammation. Primary hæmorrhage was rare and usually traumatic; it was considered (*a*) as epidural; (*b*) subdural, clinically negligible; (*c*) into the substance of the cord; and (*d*) into a pre-existing cavity—syringal hæmorrhage. A primary thrombosis was considered to be the cause of the usually named "transverse myelitis", and in this condition syphilitic arteritis was the common lesion. Many other forms of local destruction of the cord were also considered to be due to a primary ischæmia; these were tuberculous and syphilitic meningitis, compression of the cord, and the effect of tumours. Dr. Warrington discussed the pathological appearances presented by acute diseases of the spinal cord, the effects of acute degeneration, softening, hæmorrhagic infarction, coagulation, necrosis, and inflammatory œdema. He alluded to caisson disease as perhaps an example of pure ischæmia from gas embolism. Primary inflammation was, he thought, rare and probably included the disseminated lesions characterised by demonstrably infective causation. A remarkable example of such acute disseminated hæmorrhagic myelitis was mentioned and specimens illustrating its pathology were shown. Dr. F. E. Batten's view of the thrombotic nature of encephalitis and infantile palsy was noted and the relationship of Landry's paralysis to the other acute paraplegias was briefly considered.

Scabies.—Intratracheal Injection of Izal in Pulmonary Tuberculosis.—Intrathoracic Tumours.—Treatment by Hypnotic Suggestion.

A meeting of this society was held on April 19th, Mr. F. T. PAUL, the President, being in the chair.

Dr. F. H. BARENDT read a note on Scabies, emphasising certain points in diagnosis, mode of infection, and treatment. In cases where the primary eruption was incapable of detection—cuniculi not being recognisable—but the sites of the secondary eruption due to the pruritus were well defined, the patient should be treated for scabies. The nipple area in woman and the genital region in man should always be carefully examined, especially where the eruption between the fingers, in the case of cleanly individuals, was absent. Dr. Barendt drew attention to the method of distribution, which thus accounted for the universality of the lesions in long-standing scabies. He considered that infection was almost always nocturnal and the result of prolonged contact with an infected person and that the handling of bed- or body-clothes or shaking hands with a scabetic could communicate scabies was, to say the least, not proven. In ascertaining the source of infection it was necessary to question the patient upon his surroundings of the three weeks previous to the onset of itching. Dr. Barendt used the β-naphthol ointment first introduced by Kaposi. It was a superfatted soft soap containing about 9 per cent. of β-naphthol. It had the advantage of neither staining nor possessing a disagreeable odour and, above all, did not aggravate the secondary lesions, which sulphur ointment, especially in long-standing scabies, was liable to do.—Dr. G. G. STOPFORD TAYLOR stated that treatment was unsatisfactory unless all underclothes and bed-linen were boiled and those clothes which could not be so treated were stoved. The Liverpool sanitary authorities would undertake the stoving free of charge.

Mr. COLIN CAMPBELL showed a patient after 12 weeks' treatment by Intratracheal Injections of Izal in Pulmonary Tuberculosis.

Dr. T. R. GLYNN classified 21 cases of Intrathoracic Tumour under the following heads: Hodgkin's disease with implication of the mediastinal glands, four cases; sarcoma of some groups of superficial glands, with implication of the a patient, aged 37 years, suffering from paroxysmal attacks of abdominal pain. The attacks began with a sensation of dragging followed by acute pain in the right side. The patient suffered from constipation which was most pronounced during the attacks. Leucorrhœa was succeeded by xanthorrhœa. Menstruation was regular, the amount being moderate without any special symptoms. At the operation the uterus was found to be myomatous, the right ovary was occupied by a large adherent cyst, the left oviduct was inflamed, and there were firm adhesions between the tumours and the bowel. The uterus and the cyst with the left appendages were removed. On opening the cyst the contents were found to be suppurating and the wall contained solid adenomatous growth with malignant degeneration. The patient progressed satisfactorily without any evidence of recurrence. 2. Myoma of the Cervix from a patient, aged 32 years, suffering from menorrhagia but without any disturbance of the bladder or bowel. 3. Myoma removed from a patient, aged 36 years, by an abdominal intra-uterine myomectomy. The patient made a good recovery.—Dr. Frederick Edge showed: (1) Myoma of the Uterus which became strangulated and simulated cancer of the fundus, removed from a patient, aged 58 years, who was single and passed the menopause eight years previously. There was a family history of cancer. The patient had some pelvic pain during last winter. One month previously after walking sudden acute pelvic pain came on with a pulse of 160 and a temperature of 104° F. On examination a tumour was found closely adhering to the fundus, causing acute pain on manipulation. The diagnosis lay between an ovarian cyst with axial rotation, carcinoma, or a myoma undergoing malignant degeneration. At the operation the uterus was found to be retroverted with a strangulated myoma behind the right broad ligament. 2. A Pregnant Uterus of four months with an almost sessile myoma removed by supravaginal hysterectomy from a patient, aged 45 years, complaining of severe abdominal pain. At the operation the myoma was found to be intimately adherent to the uterus and bowel. The tumour was ligatured off with No. 5 silk but this cut through the tissue, causing hæmorrhage which necessitated removal of the uterus as well. 3. A Myomatous Uterus with Expanded Cervix removed by abdominal hysterectomy. The cervix was removed after supravaginal hysterectomy, leaving a portion of the anterior wall.—Dr. Edge read a short communication on the Advantage of Panhysterectomy over Supravaginal Hysterectomy, basing it on two fatal cases where the latter operation had been performed, the cause of death in one case being secondary hæmorrhage and in the other acute general peritonitis on the tenth day. The method of operation advocated was similar to Doyen's, with the addition of making peritoneal flaps anteriorly and posteriorly.—Dr. Smallwood Savage (for Professor J. W. Taylor) showed a large Uterine Myoma removed from a patient suffering from diabetes, aged 46 years. The patient had one child nine years previously and one miscarriage eight years ago. She complained of menorrhagia and bad diabetes for more than a year. The abdomen had rapidly increased in size for several months. The urine was acid and contained some albumin and much sugar. The progress had been satisfactory so far.—Dr. H. Macnaughton-Jones showed an Adeno-Carcinoma of the Left Ovary removed from a patient, aged 56 years, who complained of severe pain since a fall in December, 1905. On operation two ovarian tumours were found and a quantity of ascitic fluid escaped. In the wall of the left tumour malignant spheroidal cells were found.—The President showed a Spindle-celled Sarcoma of the Left Ovary removed from a patient, aged 50 years, who was admitted for an abdominal tumour and stabbing pain. The climacteric occurred six months previously. The pain increased during the last month and the abdominal swelling became more prominent. At the operation a large quantity of dark fluid escaped from the abdomen; the left ovary was occupied by a solid tumour which had rotated on its pedicle at least twice. This tumour was removed and no secondary deposits were found. The right ovary was fibrous but was not removed. The patient made a rapid recovery. The pathological report stated that the stroma showed all the characters of a spindle-cell sarcoma with areas of necrosis and hæmorrhage.

CORK MEDICAL AND SURGICAL SOCIETY.—A meeting of this society was held on March 28th, Dr. Richard P. Crosbie, the President, being in the chair.—Dr. Patrick T. O'Sullivan read notes of two cases, one of the Swallowing of Three-fifths of a Grain of Strychnine and one of Poisoning by Phosphorus. In the first case the patient was a man, aged 62 years, who had suffered from diabetic glycosuria for four years. A mixture consisting of two drachms of liquor strychninæ (B.P.) in four ounces of water was prescribed for him and he was directed to take one teaspoonful in a wineglassful of water after meals. He, however, whilst writing letters after dinner, poured out a wineglassful of the mixture and drank it off. An hour later, becoming alarmed, he sent for Dr. O'Sullivan who found him in a state of great excitement but showing no symptom of poisoning except some slight trembling of the leg muscles. He was watched for an hour and seen frequently during the evening, but no other signs appeared and next morning he was all right. He had swallowed three-fifths of a grain of strychnine and there were instances where a quarter of a grain had proved fatal. The explanations suggested by Dr. O'Sullivan were (1) that the strychnine was bad; (2) that the full meal prevented the rapid absorption of the drug; and (3) that owing to the advanced diabetic condition the drug was tolerated in larger doses than in the normal subject. In the case of phosphorus poisoning the patient was a child who had swallowed the heads of several lucifer matches. There was jaundice with enlargement and tenderness of the liver. The stools were clayey and smelt of phosphorus and in the dark showed faint phosphorescence. The urine was scanty and bile-stained and showed a small trace of albumin, but no leucin or tyrosin. The patient was restless and did not sleep at first, but afterwards became stupid and difficult to arouse. There was no trace of bile in the stools for 29 days. The child made a good recovery, being carefully nursed and treated expectantly.—Dr. N. H. Hobart read notes of a case of Fibromatous Tumour of the Capsule of the Kidney. The patient was a married woman, aged 26 years, and a primipara. Three days after a normal labour which terminated on Feb. 4th, 1906, a tumour of about the size of a small orange was noticed on the right side of the abdomen, at the level of the navel. On Feb. 28th Dr. Hobart saw the patient for the first time and found a large oval smooth tumour extending from the right iliac fossa to about two inches above the umbilicus. On March 4th, as the patient's temperature had been about 102° F. for some days, he aspirated and withdrew a small quantity of dark serum. On the 5th he removed the tumour by a median abdominal incision. The cavity was packed with a Mikulicz bag, by the side of which the handles of two pressure forceps, which had to be applied to the kidney where it was accidentally wounded, were allowed to emerge. The solid portion of the tumour was of about the size of a small adult head. The Mikulicz bag and pressure forceps were removed in 24 hours and the pedicle clamp 24 hours later. The patient made an uneventful recovery. Only a small quantity of clear serum was now discharging from the sinus.—Dr. Hobart also showed a Hatpin removed from the Urethra of a man, aged 22 years. He first tried to secure the point but failing in this he pushed the point through the skin until the head alone remained in the urethra. Next altering its direction he pushed the pin out through the meatus.—Dr. Henry Corby read notes of a case of Empyema treated by Estlander's Operation and showed the patient. In order to empty the cavity the patient with hips raised high, resting on his shoulders, was instructed to cough repeatedly in that position and the pus flowed out very freely. He was then put in a half-sitting posture and again repeatedly coughed, with similar results. This was done at each subsequent dressing and in five days the pus had completely disappeared, there being now only a little serum issuing from the minute sinus left. The patient had gained greatly in weight.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held in the Faculty Hall on April 9th, Dr. J. Lindsay Steven, the Vice-President, being in the chair.—Mr. A. Ernest Maylard described the features of a case of Malignant Disease of the Duodenum surrounding the orifice of the common bile duct. The patient, a man, aged 39 years, was admitted to hospital suffering from jaundice, and dating the commencement of his illness—four months previously—to attacks of shivering with sense of prostration and with yellowness of the skin noted about ten days later. On admission the patient suffered from obstructive jaundice with marked pallor. No pain, tenderness, or tumour was noted in the region of the gall-bladder but a sense of resistance was elicited. About three weeks after admission an exploratory laparotomy was performed and the distended, tense gall-bladder was recumbent posture, as well as by using methods to obtain complete rest for the affected parts. By the aid of lantern views he demonstrated what he considered to be the best methods for securing that immobilisation and the prevention and correction of abnormal attitude in spine and hip disease. He was of opinion that in tuberculosis of bones and joints better results both as regards life and function were, as a rule, obtained by conservative than by operative means. In non-suppurative joint cases parenchymatous and intra-articular injections of iodoform gave good results. Mixed infection with pyococci was a complication to be dreaded and carefully guarded against; hence abscesses should not be opened but aspirated and then injected with iodoform, naphthol-camphor, or other modifying substances. He contrasted the method of incision and drainage with that of aspiration and injection and pointed out how it was almost impossible in many cases where there was a great deal of discharge, however careful one might be in the dressings, entirely to exclude other organisms. Mixed infection resulted in greatly delayed healing and frequent formation of fistula. With the closed method of treatment a cure was almost certain. He described his method of procedure in various cases, exhibited the syringe which he employed and explained its working, and enumerated various precautions which were necessary for success. It was essential always to choose a spot for puncture where the skin appeared to be quite normal; the skin must be thoroughly disinfected, and the needles and syringe sterilised; it was advisable also to soak the iodoform in carbolic solution before use. He preferred to use iodoform 10 per cent. in ether with sometimes a little glycerine or guaiacol. During the past three years he had treated 44 cases of "closed tuberculosis," in 34 of which bones or joints were affected, by injection or by aspiration and injection. These included cases of tuberculous periostitis of the jaw; spinal caries, with abscess in the neck; caries of rib, scapula and ilium; arthritis of elbow, wrist, ankle, hip and knee (several cases); six cases of psoas and two of lumbar abscess, &c. In three cases the treatment failed—two improved but died afterwards from pulmonary tuberculosis; in 41 the results were satisfactory. During that period no tuberculous abscess was opened and thus no patient was exposed to the risk of mixed infection. He considered that the results thus obtained were most encouraging and a great improvement on former methods and worthy of a more extended trial in the future. In advanced cases of bone disease with sinuses he had employed von Mosetig-Moorhof's method of clearing out the cavity and packing with iodoform paste with a considerable amount of success.—In the discussion which followed, Dr. G. Halley objected to the opinion expressed by other members that the results of the treatment were convincing as he considered that in many cases time could have been saved and the disease with more certainty eradicated by excision of the affected parts.—The majority of the meeting, however, were of opinion that the new method of treatment was a great advance on that of former days.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 7th, Mr. Russell Coombe, Vice-President, being in the chair.—Dr. A. W. F. Sayres reported a case of Aortic Aneurysm, exhibiting the patient and also radiographs taken by Dr. J. D. Harris. The patient was a man, aged 48 years. There was no definite history of syphilis. His health had been good until five years ago when he began to suffer from pains in the upper part of his chest above the heart. At this time it was pointed out to him that both radial pulses were absent. During the next three or four years the chief trouble was severe pain over both clavicles, passing up both sides of the neck to the back of the head and over both shoulders down the arms. For the last year this pain had not troubled him much but he had suffered from dyspnœa, at times severe, which was accompanied by stridor. In January, 1906, the patient had a severe attack. Dyspnœa was extreme; there was much stridor and he was cyanosed and he felt as if he would be suffocated. There was some dysphagia but he was able to swallow liquids freely. Laryngoscopic examination exhibited no paralysis of cords. The pupils were equal and acted to light. The trachea was markedly pushed back and there was an area of dulness with its centre at the left sterno-clavicular joint and pulsation was plainly visible here but no bruit could be detected. Tracheal tugging was not marked. Neither radial pulse could be felt. No marked sign of arterio-sclerosis was present. There was no loss of flesh. Radiographs showed marked shading in the region of the transverse arch of the aorta. For two and a half months the treatment consisted of five grains of potassium iodide, and for a month a modified Tufnell's diet was given. There were marked improvement, very little dyspnœa, and scarcely any pain. The following are interesting points in the case: (1) loss of both radial pulses; (2) cessation of pain; (3) absence of pressure on recurrent laryngeal and sympathetic nerves; (4) absence of œdema of the neck; and (5) improvement in pressure symptoms.—Mr. A. C. Roper and Mr. R. V. Solly reported a case of Cerebro-spinal Meningitis secondary to Middle-ear Disease. The patient, a stoker in the navy, aged 25 years, was admitted into hospital on Dec. 7th, 1905. In October a polypus had been removed from his left ear and a fortnight before admission he had been discharged from the naval hospital as fit for duty, but as he did not look well his commander gave him a short holiday. In a few days he was admitted suffering from severe pain, giddiness, and dimness of vision; severe vomiting had been present. There were some swelling and tenderness of the left side of the neck. No optic neuritis was present. The mastoid was trephined and a communication with the external auditory meatus was established but no pus was seen and no relief was obtained. Marked pyrexia of irregular type was present. The pulse was slow and full and there was free perspiration. Nystagmus was present, lateral and vertical. The pulse and respiration were markedly irregular. A blood count showed 33,000 leucocytes per cubic millimetre, with 82 per cent. of polymorphonuclears. Lumbar puncture was performed and a few drachms of fluid were removed. This was opalescent and contained an enormous proportion of polymorphonuclears; a very few lymphocytes, large and small, were also present. A few diplococci and some short, rather thick bacilli, negative to Gram, were also seen in stained films of centrifugalised fluid. A culture was made but proved sterile. The patient did not improve and died on the next day. Kernig's sign and increased plantar reflexes had been present. A post-mortem examination showed marked purulent meningitis at the base of the brain. No abscess was present. There was thrombosis in both petrosal sinuses. The petrous portion of the temporal bone (left) was soft and was easily chiselled away exposing a mass of pus and débris where cochlea and semicircular canals should be. There was marked sclerosis of the mastoid cells. Pus and granulating tissue passed into the aqueductus Fallopii. Films of pus at the base of the brain showed microscopically capsulated diplococci and many bacilli, some large and some small, and Gram-negative. Mr. Solly exhibited microscopical slides of films of the cerebro-spinal fluid and pus obtained post mortem. He pointed out the correspondence between the blood count and the lumbar puncture as regards the predominance of polymorphonuclears. The usual organism in cerebro-spinal meningitis after ear disease was the pneumococcus, but a lepto-meningitis due to the influenza bacillus occurred and it was possible that the bacilli present in the cerebro-spinal fluid were these. The French authorities, Widal, Labbé, and others, had especially studied the cytodiagnosis of cerebro-spinal fluid obtained by lumbar puncture, which was particularly useful in distinguishing tuberculous meningitis (where an excess of lymphocytes was present) from septic cerebro-spinal meningitis (where polymorphonuclears predominated), and also in distinguishing both of these forms of meningitis from conditions such as typhoid fever, where no cerebro-spinal meningitis was present and the fluid was normal.—Mr. B. Dyball reported a case of severe Erysipelas treated by antistreptococcic serum. A fortnight previously the patient had suffered from a peritonsillar abscess. The temperature was high and the rash extended all over the body, beginning in the forehead. Treatment consisted of a mixture of strychnine and cinchona and an ointment of ichthyol was applied. Four injections of antistreptococcic serum were given, three of ten cubic centimetres, each reducing the temperature and stopping the spread of the rash, and finally one of 20 cubic centimetres, which effected a complete cure. The patient later developed venous thrombosis and became completely bald. The antistreptococcic serum was not polyvalent.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 9th, Mr. F. Bowreman Jessett, the President, being in the chair.—Dr. H. Macnaughton-Jones read notes on the Use of Vioform as a Substitute for Iodoform.—Dr. A. E. Giles showed: 1. Uterine Myoma with Suppurating Carcinomatous Ovarian Cyst removed from

from the size of peas to that of beans. He regarded them as endotheliomata originating probably from the endothelium of the peritoneum.—Dr. Arthur N. Holmes read a paper on a case of Hernia of the Gravid Uterus through an old abdominal scar. The patient had become pregnant shortly after the operation and had noticed a lump protruding from the lower part of the abdomen; this swelling after the confinement almost disappeared. She again became pregnant, the lump steadily increasing, and circular ulcers formed where the clothes and thighs had rubbed. After delivery in November, 1903, the tumour remained, though smaller in size. On Dec. 22nd, 1905, she went to the Rotunda Hospital. On examination there was found a tumour springing from between the umbilicus and symphysis, which, falling forward, reached more than half-way down the front of the thigh. This proved to be the uterus and the fœtal movements were felt. The skin was very thin and large circular ulcers were distributed over its surface. Some of these extended to the uterine muscle. The patient stated positively that she was at full term and that labour pains were beginning. She delivered herself suddenly without any trouble of a live child who presented all the appearance of being up to full term. The weight was three and a half pounds and the length was 14 inches. The placenta was removed manually on accoun of hæmorrhage. Reduction of the uterus was impossible on account of the adhesions. The diminutive size of the child was thought to be due to the diminished blood-supply consequent on the abnormal position of the uterus and the constriction caused by the ring of the sac. The woman delivered herself and had no pain. The tumour was of about the size of a man's head. Dr. Purefoy told him that the woman was going about her work and was apparently well. The child died shortly afterwards from an attack of green diarrhœa.—Dr. Horne said that he had never seen a case of this kind. It was hard to conceive how the child was born through so great a constriction.—Dr. James S. Ashe read a paper entitled "Some Remarks on Uterine Suspension and Shortening Round Ligaments" (Adelaide Hospital Report, 1905). In it he showed a preference for the operation of suspension rather than for the shortening of ligaments.—Dr. Horne said that he had rarely seen any untoward results follow the use of pessaries, and if such did occur it was possible the pessaries had not been properly applied.—Sir Arthur Macan said that he rather favoured the use of pessaries. A woman came to him who had worn a pessary for eight years. She had no vaginitis and the pessary showed no signs of wear. If pessary treatment was at all beneficial it was preferable to operation.

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New intruments of precision are fully described and illustrated, while the results of the most recent researches are also presented in a condensed but an intelligible form. Attention is specially directed to the inclusion, by permission of the Royal Society of London, of a plate which shows forms of human trypanosoma and which is opened and drained. No gall-stones were found. In the second part of the duodenum a somewhat moveable tumour, apparently implicating the head of the pancreas and common bile duct, was found and as the tumour was considered to be inoperable it was decided to complete the operation as a cholecystotomy. A biliary fistula resulted but the jaundice became less marked and the general condition of the patient improved. He was sent to the convalescent home for some weeks and returned to hospital with the object of having a cholecyst-enterostomy performed as the fistula was still discharging bile, but without warning he suddenly collapsed and died a few hours after his re-admission.—Dr. John Anderson described the conditions met with at the post-mortem examination and showed the specimen of the tumour of the duodenum and microscopical preparations of the same. There was a moderate degree of jaundice and the organs were bile-stained. The heart muscle was soft and the right side was dilated. The growth, which was situated in the second part of the duodenum, presented the appearances of a spherical carcinomatous ulcer of three inches in diameter, involving the bile papilla, but the diverticulum of Vater was still patent. Above its relationship to the head of the pancreas the common bile duct was dilated, and there was slight dilatation of the duct of Wirsung. No evidence of tumour tissue was present in the head of the pancreas itself, but the lymphatic glands around the same were enlarged and were evidently the seat of malignant invasion. The bile ducts and portal branches in the liver were dilated but there were no malignant nodules present. The gall-bladder, though collapsed, was healthy in appearance.—Dr. T. K. Monro showed a specimen of Aneurysm of the Splenic Artery from a case of ulcerative endocarditis. The patient, a young man, aged 23 years, was admitted to hospital suffering from breathlessness on exertion, weakness, and pain in the chest and legs. During his residence in the wards he suffered from arthritis of the knees and irregular pyrexia. The heart was enlarged and at the apex A.S., V.S., and V.D. murmurs were heard and at the other cardiac areas V.S. and V.D. murmurs. The lungs were normal and the spleen, at first noted as normal, was afterwards made out to be enlarged. The urine was albuminous and there was anæmia of the secondary type. Sodium salicylate and antistreptococcic serum were both tried but failed to have effect. The bacteriological examinations were negative. At the necropsy the heart was found to be enlarged and there were large, almost cartilaginous, vegetations on the aortic cusps, and smaller warty vegetations on the mitral and tricuspid. Infarctions were present in the spleen and the splenic artery at its point of entrance into the organ showed the presence of an aneurysm of the size of a Tangerine orange and filled with blood clot.—Dr. A. M. Ramsay and Dr. Hugh Walker gave a clinical and pathological report on a case of Tuberculosis of the Uveal Tract and showed microscopical specimens from the same. The patient gave a history of good health up to six weeks before admission to hospital when he began to suffer from what he called inflammation of the eye and latterly of a swelling at the upper aspect of the corneo-scleral junction, which had a soft and yellowish-white appearance and the conjunctiva covering it was traversed by large varicose vessels. There was a bad tuberculous family history and as the eye became worse after admission it was enucleated. In addition to the extra-ocular mass a large-sized intra-ocular tuberculous tumour was present.—Dr John Patrick showed two brothers who suffered from Malocclusion of the Jaws. The only teeth which approximated were the back molars. The teeth of the lower jaw were somewhat larger and were situated external to those of the upper, while there was present a very high arch of the palate. The difficulty of explanation of the origin of the condition and of a means of treatment were commented upon.

Nottingham Medico-Chirurgical Society.—A meeting of this society was held on April 18th, Mr. T. J. Dabell, the President, being in the chair.—Dr. F. H. Jacob showed a married woman, aged 36 years, the subject of Paresis of the Third Cranial Nerve. Some improvement had taken place with large doses of potassium iodide.—Mr. W. Morley Willis read notes of a case of Mucous Colitis treated by Appendicostomy. The patient was a woman, aged 32 years, who had suffered for at least two years with loss of flesh, abdominal pain, and hard and scybalous motions; independently of fæcal stools she also passed blood, mucus, or membrane daily, and there was the train of neurotic symptoms usual in such cases. At the operation a month ago the appendix was brought out between the fibres of the external oblique muscle and fixed there, the projecting portion being shaved off three days later. A week after the operation lavage of the colon was begun, from two to three pints of soap and water being introduced through a small catheter, and no leakage had ever occurred from the stump of the appendix beyond a little moisture due to glandular secretion. Very great improvement had taken place in all the symptoms during the three weeks in which this measure was carried out daily, the fluid being retained for 20 minutes or longer before a natural evacuation followed. The patient had now developed a healthy appetite and had begun to take an intelligent interest in her life again. Mr. Willis pointed out that the disadvantages of a colotomy wound were entirely avoided and thought (as recently suggested by Sir W. H. Bennett) that the operation would also prove a serviceable one where there was great distension in cases of highly toxic peritonitis or pneumonia and for feeding purposes but did not anticipate that it would be of much real value in typhoid fever. There ought to be no difficulty, if necessary, in closing the fistula when the patient's health was thoroughly re-established.—The case was discussed by the President, Dr. C. H. Cattle, Dr. Jacob, Dr. W. Hunter, Mr. W. J. H. Hepworth, Mr. E. Powell, Dr. F. R. Mutch, Dr. W. Tibbles, and Mr. R. G. Hogarth, and Mr. Willis replied.—Dr. Jacob showed photographs of a patient suffering from Syphilitic Psoriasis of the Palm. Special interest arose from the fact that before any history of syphilis was forthcoming she had undergone at least three curettings for intractable metrorrhagia and the uterus was finally removed and was found to have undergone fibrotic or sclerotic changes.—Dr. W. T. Rowe showed a specimen of Primary Tuberculosis of the Intestine in a breast-fed infant, aged six and a half months. The child had had cow's milk for only two days and death was due to acute hæmorrhage from an ulcer. Since then the child's grandmother had come under treatment for pulmonary tuberculosis so that infection had most probably occurred from this source.—Dr. Cattle quoted a similar case in an adult and pointed out that both cases were in strict accordance with Koch's view as the infection was from human and not bovine sources.—Dr. Powell showed two specimens found in the post-mortem room of an asylum: 1. Primary Carcinoma of the Liver in a woman the subject of alcoholic dementia. The liver as a whole weighed seven and a half pounds and the disease was of a latent character until abdominal distension occurred a short time before death. 2. A Heart weighing 33¼ ounces. Great hypertrophy had occurred as the result of mitral and aortic stenosis, the latter orifice being so far occluded as only to admit a match.

Royal Academy of Medicine in Ireland: Section of Obstetrics.—A meeting of this section was held on April 6th, Sir Arthur V. Macan being in the chair.—Dr. Andrew J. Horne exhibited a Myoma of the Uterus showing Cystic and Calcareous Degeneration. The patient was aged 45 years, was the mother of six children, and had menstruated regularly.—Mr. E. Hastings Tweedy exhibited a specimen of Cancer of Both Ovaries. The patient was a woman, aged 21 years, who had been operated on in a hospital some weeks previously for an ascitic collection, supposed to be the result of tuberculous peritonitis. She entered the Rotunda Hospital, Dublin, five weeks afterwards in an apparently dying state and enormously distended by peritoneal dropsy. On opening the abdomen he found the intestines tucked up under the diaphragm and very adherent to each other; they, together with the entire peritoneum, were studded with coarsely granular masses, which he remarked at the time of the operation resembled endothelioma rather than tubercle. The ovaries appeared papillomatous and were both removed. The abdominal cavity was drained with five wicks of iodoform gauze in the hope that they would be the means of causing an adhesive peritonitis and so obliterating the weeping surfaces. For several days fluid escaped through the drains but this gradually became less and the patient left the hospital symptomatically cured and declaring that she was feeling better than she had done for two years. He had examined the patient that morning. Her abdomen was hard and the cancer seemed again advancing.—Dr. R. J. Rowlette, who examined the pathological condition of the parts removed, said that the tumours were of a nodular character, the nodules varying

from the size of peas to that of beans. He regarded them as endotheliomata originating probably from the endothelium of the peritoneum.—Dr. Arthur N. Holmes read a paper on a case of Hernia of the Gravid Uterus through an old abdominal scar. The patient had become pregnant shortly after the operation and had noticed a lump protruding from the lower part of the abdomen; this swelling after the confinement almost disappeared. She again became pregnant, the lump steadily increasing, and circular ulcers formed where the clothes and thighs had rubbed. After delivery in November, 1903, the tumour remained, though smaller in size. On Dec. 22nd, 1905, she went to the Rotunda Hospital. On examination there was found a tumour springing from between the umbilicus and symphysis, which, falling forward, reached more than half-way down the front of the thigh This proved to be the uterus and the fœtal movements were felt. The skin was very thin and large circular ulcers were distributed over its surface. Some of these extended to the uterine muscle. The patient stated positively that she was at full term and that labour pains were beginning. She delivered herself suddenly without any trouble of a live child who presented all the appearance of being up to full term. The weight was three and a half pounds and the length was 14 inches. The placenta was removed manually on account of hæmorrhage. Reduction of the uterus was impossible on account of the adhesions. The diminutive size of the child was thought to be due to the diminished blood-supply consequent on the abnormal position of the uterus and the constriction caused by the ring of the sac. The woman delivered herself and had no pain. The tumour was of about the size of a man's head. Dr. Purefoy told him that the woman was going about her work and was apparently well. The child died shortly afterwards from an attack of green diarrhœa —Dr. Horne said that he had never seen a case of this kind. It was hard to conceive how the child was born through so great a constriction.—Dr. James S Ashe read a paper entitled "Some Remarks on Uterine Suspension and Shortening Round Ligaments" (Adelaide Hospital Report, 1905). In it he showed a preference for the operation of suspension rather than for the shortening of ligaments.—Dr. Horne said that he had rarely seen any untoward results follow the use of pessaries, and if such did occur it was possible the pessaries had not been properly applied —Sir Arthur Macan said that he rather favoured the use of pessaries. A woman came to him who had worn a pessary for eight years. She had no vaginitis and the pessary showed no signs of wear. If pessary treatment was at all beneficial it was preferable to operation.

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Reviews and Notices of Books.

Clinical Diagnosis: the Bacteriological, Chemical, and Microscopical Evidences of Disease. By RUDOLF VON JAKSCH, M.D. Fifth English edition, based upon the Fifth German edition, but containing additional matter and illustrations. Edited by ARCHIBALD E. GARROD, M.D. Oxon., F.R.C.P. Lond. London: Charles Griffin and Co. 1905. Pp. 602. Price 24s. net.

THE unsigned preface, presumably by the author, refers to the loss sustained by the premature death of Dr. J. Cagney who originally translated the volume, and to the work of Dr. A. E. Garrod who has revised the present translation and made many additions to the book. The general scope of this volume is too well known for it to stand in need of detailed description. In spite of its title it is concerned rather with the work of the laboratory than with that of the wards or of the bedside. The subtitle forms a truer description of the nature of the information here afforded and the time has come when it is recognised that this information is of incalculable service, although it does not replace clinical observation. In the present edition, within the limits defined by the subtitle, the volume is truly marvellous in the general accuracy with which it reflects all recent advances in methods of laboratory investigation. New intruments of precision are fully described and illustrated, while the results of the most recent researches are also presented in a condensed but an intelligible form. Attention is specially directed to the inclusion, by permission of the Royal Society of London, of a plate which shows forms of human trypanosoma and which is

taken from the reports of the Commission on Sleeping Sickness. In the text relating to this subject an amusing misprint occurs; by the unfortunate insertion of a comma the identity of a physician is obscured and a surgeon is credited with having made certain unexpected recommendations (*vide* p. 80). As a rule, however, the new material, which is included in square brackets and is apparently the work of the editor, is concise and serviceable; frequently, though not invariably, it represents the results of his own observations. A word of gratitude must be assigned to the bibliography, both for its completeness and for its arrangement in 70 pages at the end of the volume in divisions which correspond with the different chapters. The value of the book as a work of reference would be increased if a list of authorities arranged alphabetically could be added at the next revision; the numbers in the bibliography indicate the order in which the various statements are referred to in the text and accordingly much time may be expended before the reader can be satisfied that the work of any particular observer has or has not been duly noticed. Meanwhile congratulations are due to the editor for the great trouble that he has taken to render the volume before us so superior to the last German edition; he has incorporated much that must in due season be added by Professor von Jaksch when preparing a new German edition and a certain feeling of satisfaction results from consulting a book, made in Germany, which has been improved upon in its preparation for English readers.

A Text-book on Plague. By Dr. TOHIU ISHIGAMI, Superintendent, Bacteriological Institute, Osaka, Japan. Revised by Professor SHIBASABURO KITASATO. Translated, enlarged, and illustrated with Pathogenic Horticulture by DONALD MACDONALD, M.B., C.M. Glasg. With 152 illustrations and three chromo-lithographic plates. Melbourne: William Ramsay. 1905. Pp. 180. Price 1 guinea.

THE author was induced to write this interesting work, embodying the results of his personal experience on plague, as he found that no book had ever been written on the subject in Japan, and as the disease was tending to become epidemic in Kobé and Osaka medical practitioners there were not infrequently in the dark as to its proper clinical treatment. The work evidently met the growing demand for such a book, for the first edition was soon out of print, whilst a second revised edition also followed the course of the first.

The book opens with a definition and summarised history of plague. The endemic regions of the disease are next enumerated—viz., the foot of the Himalayas, Asir in Arabia, Mesopotamia in Asia Minor, Yunnan and Thibet in North China, and Kisiba in Western Africa and the neighbourhood of Uganda. The author then tells the story of the biology of the plague bacillus, for the discovery of which medical science is indebted to the acumen of his fellow countryman Professor Kitasato. The special characteristics of the bacillus are fully given and the comparative effects of various chemical agents on its vitality are narrated. Dr. Markl's investigations on the toxin of the bacillus are then noted. The author next passes on to consider the extra-corporeal existence of the bacillus in water, soil, dust, food and drink, the urine, and in pieces of cloth and other materials.

With respect to the relation of the disease to insects and rats Professor Kitasato and others have shown that flies, mosquitoes, fleas, ants, bugs, rats, and mice are closely connected with plague epidemics. The insects are believed to invade plague-infected rats and disseminate the infection through sucking their infected blood. Should the insects come in contact with a human body they inoculate it either by stinging or biting. Professor Okada showed also that insects, especially flies, become infected and die as soon as they have tasted a liquid containing plague bacilli. Should a rat eat these dead flies it becomes infected and when that rat dies other rats will prey upon its infected corpse and so an epidemic breaks out amongst them. Professor Okada asserts, therefore, that the insects first become infected and subsequently the rats through eating such insects. Also, since the dejecta of such insects contain a large number of the plague bacilli, there is every opportunity offered for rats and human beings to be infected with the same.

As regards the portals through which the bacillus invades the human body there are three principal ones—namely, wounds, the respiratory system, and the digestive system, and of these the principal one is held to be a wound of the mucous surface or of the skin. The disease was, according to the experience in Formosa and Hong Kong, far more prevalent amongst the poor Chinese who go about barefooted than amongst the British or Japanese soldiers who wear boots and stockings. The post-mortem appearances, macroscopical and microscopical, are next given and then the author passes on to the symptoms. He enumerates five varieties of the disease—viz., the bubonic, pneumonic, intestinal, inoculative, and minor plague or pestis minor. With respect to the pneumonic type, the author shows how liable it is to be mistaken for croupous pneumonia unless special care be taken. The various sequelæ that may be observed are noted; these belong chiefly to the nervous system. Gangrene of the lung may also occur. Respecting prognosis the bubonic variety has the best, whilst the pneumonic form has little prospect of recovery. The acute cerebral type of the disease is invariably fatal.

A valuable chapter on the diagnosis of the affection is given, the diseases for which it may be mistaken being simple infective adenitis, pneumonia, enteric fever, and simple meningitis. In all difficult cases the diagnosis of the disease has to be made by the finding of the bacillus in the sputum, evacuations, blood, or urine, and the method to be followed is clearly described. Respecting the prophylaxis of plague the various measures are considered under the heads of (*a*) preventive measures, e.g., inspection of trains and isolation, conveyance of patients, and quarantine of vessels; (*b*) the treatment of the bacillus by chemicals; (*c*) the treatment of rats; and (*d*) prophylactic inoculation and serum therapy. Dr. Ishigami holds that amongst the remedial measures the most essential procedure is the early extraction of the affected gland, as this exterminates the very incubator of infection. Serum therapy would appear to be of no avail in pneumonic plague. Lastly, very valuable directions are given concerning the practical nursing of the cases.

The author of this very complete work modestly apologises in his preface for its incompleteness, but we can assure him that no such apology was necessary. The translation has been very well carried out by Dr. MacDonald.

The Sanitation of Armies on Active Service in the Field. By THOMAS F. DEWAR, M.D. Aberd., B.Sc. Edin. Arbroath: T. Buncle and Co. 1906.

WE have received a copy of this really valuable little production, apparently intended for private circulation, consisting of less than 100 pages. We have read it with much interest and advantage and therefore hasten to call our readers' attention to it. The author of this essay states that the subject matter, so far as it embodies personal observation, is based upon an extensive and a very varied experience, partly in the combatant ranks and partly in the medical service, in the recent war in South Africa. This, we may parenthetically remark, imparts a broadmindedness and practical aim to his method of handling his subject. He explains that the delay in its preparation has been due to the mass of material bearing upon the medical aspects of that war which demanded consideration and review together with other causes. Be this as it may, he has, in our opinion, produced a useful, well-considered, and up-to-date little work. It strikes us as being full of well selected and condensed information but it is not a mere compilation, for there is a running commentary of independent and, for the most part, of wise and sagacious observations. An ample list of references and authorities consulted adds to the usefulness of the essay.

LIBRARY TABLE.

The Edinburgh Stereoscopic Atlas of Anatomy. Edited by DAVID WATERSTON, M.A., M.D. Edin., F.R.C.S. Edin., F.R.S. Edin., Lecturer and Senior Demonstrator in the Department of Anatomy, University of Edinburgh. Section IV. 51 plates. London and Edinburgh: T. C. and E. C. Jack. 1906. Price £1 5s. net each section.—We have already indicated, when reviewing former sections of this Atlas, what we consider to be the advantages and what the shortcomings of the stereoscopic method as applied to anatomical illustration. The fourth section of the Edinburgh Atlas worthily sustains its reputation; it includes 51 views, for all of which new dissections have been employed and although we must say that we think that some of these have a somewhat unfinished appearance, since they seem to lack those final touches which make all the difference between a clean and a ragged specimen, yet they are admirably designed for the purposes in view. 25 of the views have been devoted to the upper limb, 16 illustrate the topographical anatomy of the perineum and pelvis, whilst ten illustrate the lumbar region and the positions of the viscera of the abdomen and thorax as seen from behind. The section contains some reproductions of photographs of very great interest and practical utility, in particular those which illustrate the abdominal and thoracic viscera from behind and also those which show the relations of the rectum and of some of the pelvic viscera in the female. These will be studied with interest and profit alike by the student of anatomy and the surgeon: they convey in a very real manner a knowledge of important visceral relations. The views of the surface anatomy of the arm also strike us as being remarkably good.

Essentials of Surface Anatomy. By CHARLES R. WHITTAKER, L.R.C.S., L.R.C.P. Edin., L.F.P.S. Glasg., Demonstrator of Anatomy, Surgeons Hall, Edinburgh. London: J. and A. Churchill. 1906. Pp 40. Price 2s. 6d. net.—This small volume contains a concise and an accurate *précis* of the main facts of human surface anatomy. The information is conveyed in a series of brief paragraphs, the contents of which are indicated by marginal notes. The arrangement adopted is regional, with the exception that blood-vessels and nerves are considered in special sections—a plan of distinct advantage from the student's point of view. The volume is not illustrated but is interleaved for additional notes. We agree with the author that for a quick revision of the salient points in surface marking the volume will amply suffice.

The University of Missouri Studies, Science Series, Vol. I., No. 1. Topography of the Thorax and Abdomen By PETER POTTER, Associate Professor of Anatomy, St. Louis University; sometime Instructor of Anatomy, University of Missouri. Published by the University. August, 1905. Price $1 50.—We congratulate Professor Potter on the painstaking piece of research which is here presented. The contribution deals with the topographical anatomy of the thorax and abdomen and embodies a minute description and rec[illegible]ion of a trunk studied by means of serial sections. The study is of great interest, since the author carefully compares his results with those of other authorities on the subject. The illustrations are carefully prepared and comprise no less than 35 plates which show not only the sections as they appeared when prepared but also the projections of the various viscera on the surface of the body. The author has set a high standard for his successors to emulate.

Ceylon: Administrative Reports, 1904. Part IV., Education, Science, and Art. Medical Report by Sir ALLAN PERRY, M.D.Durh., D.P.H. R.C.P.&S. Lond., Principal Civil Medical Officer and Inspector-General of Hospitals. Pp. 78.—This report contains a most comprehensive account of the medical history of the island of Ceylon during 1904. From it we learn that the chief infectious diseases were cholera, of which there were 7 cases with 4 deaths; small-pox, with 10 cases and 2 deaths; malaria, with 5288 cases and 75 deaths; and enteric fever, with 341 cases and 70 deaths. Compared with the numbers of the previous year, malaria was the only disease that showed an increase in its incidence. The cases of cholera did not originate in the island but were due to the infection in the s.s. *Torridge* which arrived in Colombo harbour. The malarial cases occurred in two distinct and serious epidemics, to inquire into which a commission was appointed. Many insanitary areas favourable for the breeding of mosquitoes were found. Dysentery supplied 2111 cases with 478 deaths, the total number being considerably less than in 1903. In regard to leprosy it is noted that Dr. Rost's leprolin serum was used "with very satisfactory results in three cases." Sir Allan Perry avows himself a follower of Mr. J. Hutchinson in the belief that parangi or yaws is syphilis and states that his officers have been instructed to treat these cases more rigorously with antisyphilitic measures. It will be interesting to note in the next report the results of this measure. The report of Dr. Aldo Castellani is an especially interesting one, embracing as it does sections on the various bacteriological examinations carried out during the year. The portion dealing with typhoid fever is very complete; his remarks on the great value of Widal's reaction and on the bacteriological examination of the stools and the urine and the search for the typhoid bacillus in the blood are full of interest. Dysentery also has been investigated by this observer most thoroughly and he has prepared a polyvalent vaccine for dysentery and para-dysentery which is harmless and which, although not advisable for use in ordinary cicumstances, might be useful in the case of a severe epidemic. Dr. Castellani prepares the anti-dysentery vaccine in peptone water. The blood of the inoculated person agglutinates the bacillus dysentericus of Kruse from 24 to 48 hours after the inoculation; the immunisation passes off in a few weeks. Dr. Castellani also determined the presence of three forms of dysentery; he found that ipecacuanha had no effect on the amœbic variety. The results obtained from the surgical operations performed were highly satisfactory, especially in the General Hospital, Colombo. In all there were 2733 operations, with only 46 deaths. Of these the Colombo Hospital contributed, under Dr. F. T. Garvin, 600 operations, with only 15 deaths, or a mortality of 2·5 per cent. His list includes several interesting cases, such as amputation of the hip by the Furneaux-Jordan method, for compound comminuted fracture of the femur with subsequent necrosis, the patient making an excellent recovery. He also reports a remarkable case of chronic intestinal obstruction where fæcal matter had not been passed for a fortnight. Left inguinal colotomy was performed. The patient at the time of the writing of the report was still in hospital but his recovery seemed to be assured. Space forbids us to enter more fully into this valuable report which reflects the greatest credit on all concerned in the medical and surgical work of Ceylon.

JOURNALS AND MAGAZINES.

School.—In the March and April numbers of *School* Mr. Sydney F. Walker describes in much detail various systems of warming and ventilating school buildings. After a brief explanation of the terms combustion, radiation, convection, and latent heat and of the production of draughts in rooms he gives particulars of a modification of the time-honoured open fireplace. In this the whole of the lower part of the chimney and the hearth is formed of glazed tiles, the bottom of the grate being raised from the floor, with an air space beneath. The hot gases and smoke from the fire pass up an iron flue inside the chimney, while air brought from outside the room is carried over the flue, the warmed air being delivered into the room just below the chimney breast. This arrangement provides a supply of warmed air constantly passing into the room. Hot-air furnaces are briefly mentioned and the danger of fire in connexion with them is noted. Heating by gas, either with the ordinary illuminating flame or with the Bunsen flame, is next taken up, after which come stoves containing a supply of coke or anthracite in a hopper from which the fire is automatically replenished. With regard to oil fuel Mr. Walker says that a good oil stove by a good maker, when properly attended to, is very useful. Heating by hot water circulating in flow and return pipes is then discussed and is said to be much the best for small areas. Where there is a steam-engine on the premises the waste steam from it may be used very economically for heating purposes and steam heating has the advantage that steam may be carried for a considerable distance in comparatively small pipes. Steam, however, may overheat the radiators through which it passes and cause an unpleasant smell by its action on dust lodged there.

Man.—In the April number of *Man* Dr. W. L. H. Duckworth gives a description, with four photographic views, of an artificially deformed adult skull found in Sarawak, Borneo, and now in the anatomical museum of the University of Cambridge. Mr. C. H. Read writes on the study of anthropology at the Universities of Oxford and London, expressing much satisfaction at the establishment at the former university of a diploma in anthropology.

STANDARDISATION OF DISINFECTANTS.

IN October, 1903, the Council of the Royal Sanitary Institute appointed a special committee, consisting of Mr. A. Wynter Blyth, Dr. C. Childs, Lieutenant-Colonel R. H. Firth, R.A.M.C., and Dr. Samuel Rideal, to inquire into the desirability of establishing a standard bacteriological method for determining the efficiency of disinfectants. The following additional experts were subsequently added to the committee: Dr. F. W. Andrewes (St. Bartholomew's Hospital), Professor Sheridan Delépine (Manchester), Mr. Walter Hills (representing the Pharmaceutical Society), Dr. E. Klein (St. Bartholomew's Hospital), Dr. Allan Macfadyen (Lister Institute of Preventive Medicine), Dr. James Ritchie (Oxford), Professor C. Hunter Stewart (Edinburgh), Professor G. Sims Woodhead (Cambridge), and Colonel J. Lane Notter, R.A.M.C., chairman of Council, *ex-officio*.

During the last two years this committee has held a large number of meetings to consider the question referred to it and numerous experiments have been carried out under the direction of the committee to aid the committee in coming to a decision. In the Journal of the Institute, vol. xxvii., No. 1, is published a report of experiments made on behalf of the committee and submitted to it by Colonel Firth and Dr. Allan Macfadyen, and it is proposed to publish in No. 5 a contribution from Professor Delépine on the "thread method."

The following report of the committee has been approved and adopted by the Council:—

Report of the Disinfectant Standardisation Committee.

1. The committee are of opinion that no one method of testing disinfectants can indicate their relative values under every possible condition. These must be specially determined for the given case required, and where penetration is important a "thread method" is indicated.

2. For general purposes, on account of its simplicity of working, the committee recommend the "drop method" as described in the *Journal of the Royal Sanitary Institute*, vol. xxiv. (1903), page 424.

The test to be carried out with pure broth cultures of the bacillus typhosus, using sterilised distilled water as the diluent of the disinfectant.

All nutrient broth to have a constant reaction of + 15.

Where special conditions exist which may interfere with the activity of the disinfectant the consumer should be advised to call for the same conditions to be embodied in the test.

(Signed) A. WYNTER BLYTH, Chairman.

April 9th, 1906.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 26th, 1828.

LONDON MEDICAL SOCIETY.

April 21, 1828.

Dr. WILLIAMS in the Chair.

THE important nature of the subject brought before the Society this evening, produced a very full attendance of the members.

DR. CLUTTERBUCK pointed out, in a forcible manner, the disadvantages and impediments which at present exist in the cultivation of the science of anatomy; he observed, that at the time he was a pupil, subjects could be procured at the price of two guineas; whilst at the present time, twenty guineas, or more, are paid, and the bodies are obtained with the greatest difficulty. The consequence of this, Dr. Clutterbuck remarked, is, that students, with limited means, omit the study of anatomy, whilst others go abroad, where subjects are readily procured, and at a cheap rate. The worthy Doctor concluded by moving, that a petition which had been drawn up by the council, and intended to be presented to the Commons, should be read. ......[1]

At the conclusion of the evening, a kind of conversational debate ensued, on the best means of supplying the schools of anatomy with subjects.

Mr. S. WRAY stated, that it was his conviction, Parliament would give no remedy, and that medical men should themselves set an example, by giving up their own bodies for the purposes of dissection, and thus Mr. Wray argued, the way would be paved, as it were, towards diminishing the prejudices of the public.

Mr. LAMBERT met these opinions by observing, that the notion of medical men giving up their own bodies, which had been trumpeted forth through many of the public papers, arose from a mistaken and narrow view of the subject. It was admitted on all sides, that no injury is done to the person dissected; the only injury committed, being upon feelings of the relatives, or friends, of the deceased; hence, the proposition was self-evident, that if the person submitted to dissection, had no friends or relatives, then no injury was sustained. He, Mr. Lambert, was perfectly willing that his body after death should be dissected; but he could not forget, that there were those near and dear to him, whose feelings would be outraged, and this injury he had no right to inflict. Mr. Lambert further remarked, that the annual amount of unclaimed bodies in the metropolis, as could readily be proved, would amply suffice for the supply of the anatomical schools; this appeared to him the only means that could possibly be adopted; to talk of diminishing the prejudices of surviving relatives, was, in his estimation, idle.

Mr. KINGDON concurred with Mr. Lambert, with respect to dissecting unclaimed bodies; but, at the same time, he thought the public feeling might well be consulted, by making it compulsory, as in France, to give Christian burial to the remains of the bodies, after the purposes of dissection had been served.

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[1] The wording of the petition and some discussion relating thereto which fill up this lacuna have not been transcribed.

THE LANCET.

LONDON: SATURDAY, APRIL 28, 1906.

The Apathy of Londoners with regard to their Hospitals.

IT would be difficult to overstate the service done to the hospitals of London by members of the Royal Family, a service attested over a series of years and most recently by the report of the proceedings at the annual meeting of KING EDWARD'S Hospital Fund for London. Even in the course of his progress through India the PRINCE of WALES, in his letter read by the Duke of FIFE to the same meeting, shows that he had in full remembrance the details of the work done by KING EDWARD'S Fund and shared the confidence inspired by the work on the income of the year. For from the point of view of the Fund as a money collecting agency these results are most encouraging. The Fund received in the course of 1905 no less than £361,068. The larger share of this, it is true, represents money meant to be invested, but Lord ROTHSCHILD said, in submitting the accounts to the meeting, that they might take £123,862 as representing the normal annual receipts and that this was some £20,000 in excess of the expenditure. The eloquence of such figures seems unanswerable, the more so as they imply confidence all round. We cannot but admire the energy and persistence shown by the League of Mercy, represented ably by Sir WILLIAM COLLINS, which in the same year raised by its laborious methods £15,000, a thousand more than in the previous year, and which in the seven years of its existence has contributed to the Fund no less than £61,000. The League of Mercy is supposed to deal with the poorer sort of givers, from whom it is scarcely reasonable to expect much in the way of help. After all it is on the rich and the comfortable that voluntary hospitals must rely if charity itself is not to fail and our vaunted civilisation not to be discredited. Men like GUY should be plentifully forthcoming in this age if we are not 'degenerating in *morale* and in true and reasonable care for others It is a hopeful sign that the KING and his heir give proof that it is possible to be surrounded with luxury and yet most sympathetic with the humbler classes whose life problems are complicated with grave sickness or accident.

It may well be gratifying to those in charge of this successful Fund that many of the rich cast subscriptions into their treasury, bringing the income for the year up to the handsome sum already named and enabling investments to be made which will secure to the Fund henceforth a permanent income of £50,000 and an annual distribution of over £120,000. The munificent gift by Lord MOUNT STEPHEN of £200,000—the second of its proportions—is worthy of special mention. It raises our conception of what might happen any week in the way of relief to anxious hospital authorities if his example should become infectious. And we see no reason why it should not become so, while every argument in favour of such munificence becomes daily stronger. For we must not forget in this just praise of what has been achieved by KING EDWARD'S Fund and its sister funds, the Metropolitan Hospital Sunday and Saturday Funds, that with all their growth and success the cry for help from almost every hospital becomes weekly more anxious and acute, implying a burden which threatens to become intolerable and to imperil the voluntary system of hospital support which has hitherto been little less than a national glory. Adverse balances at the bankers and over-drafts and irksome mortgages seem to multiply at the hospitals even while the great central funds report year by year an increasing income. The problem is something like the fiscal problem of the nation—a constant report of expanding trade and national income on the one hand, with a constant complaint of increasing impecuniosity on the part of the majority of the nation on the other. It is only necessary to read the advertising columns of the newspapers or to study the reports of individual hospitals to see how general and how acute is the difficulty experienced by treasurers and committees of voluntary hospitals in making ends meet. And it is only justice to the executives of the great hospital funds, which supply approximately £200,000 a year to our metropolitan hospitals, to say that they fully recognise the fact that with all their success individual institutions are more and more embarrassed. But this fact, so plain and so ominous for our readers who know the circumstances, must escape the knowledge of the average Londoner, or how shall we account for his apathy? For which reason we are grateful to the Duke of FIFE for speaking very plainly at the annual meeting of KING EDWARD'S Fund upon this exact topic. "There is one thing," he said, "which nothing seems able to overcome, and that is the apathy of Londoners with regard to their hospitals. The great majority of them do not subscribe and the plain truth is that the London hospitals are maintained by a small number of charitable people."

The facts justify this plain and powerful speaking. The charge of apathy is one not to be made lightly, but neither is it one to be resented lightly or to be refuted jauntily. That it can be made upon fair grounds is indeed an unpleasant fact in the midst of our luxurious and comfortable civilisation. There must be few in the middle classes and practically none in the upper who could not make a substantial contribution to the hospital treasury. That they do not is due, we think, not so much to want of sympathy as to want of thought. They do not see the sick and wounded. Nurses and hospital surgeons and physicians contend with the worst afflictions—physical, mental, and moral—that can fall upon suffering man every day and all day. But the hospital screens their labours too effectually from the view of those who are in health and comparative wealth and on whom the responsibility of assisting their less fortunate brethren really lies. No doubt amongst these non-subscribing thousands there are many latent Samaritans, but because they do not see the misery of the hospital patients or the beneficent work done for its removal, they allow themselves to fall as part of "the great majority of Londoners," under the charge of apathy. We should gladly welcome conference between those who have done so much for all the hospitals and those who in quieter ways bear the responsibility of individual hospitals, and we should like the results of such coöperation made public, so that those who now pass by on the other side might be moved to give their aid. Apathy in any form, either in those who can give or in those who can administer, is a sin of the first magnitude. There is need for all gleaners in this field. The failure of the voluntary principle to support the London hospitals would be, we consider, a metropolitan disaster and disgrace; it would mean the loss of one of the most binding and healing forces in a huge community which has too many elements of misery and discord.

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Tuberculous and Unclean Milk.

There is at the present time a distinct indication that public opinion is awakening from the condition of relative torpor into which it was lulled by the unfortunate statement of Professor Koch in 1901 when he alleged, as the result of a very limited series of experiments, that the danger to the human species from the consumption of tuberculous bovine milk was so small, if it existed at all, that he deemed it unnecessary to take any precautions against it. This expression of opinion, notwithstanding the counterblasts which accompanied it, exercised a distinctly inhibitory effect upon the steps which up to that time were being taken against unwholesome milk in general, there being, strangely enough, after Professor Koch's expression of opinion, an inexplicable tendency to assume that tuberculosis was the only disease which had to be taken into consideration as regards the supply of milk. There can, however, be no longer any doubt that whatever may be the precise degree of danger to be anticipated from the consumption of large numbers of tubercle bacilli in the quantities of milk consumed by children and invalids such danger is a real one, and there are those who believe, as a result of recent experiments, that much of the tuberculosis of adults has its origin in a milk-borne infantile infection which remains latent until, by adverse circumstances of poverty or age proclivity, the human soil becomes so altered as to enable the parasite to grow and to manifest its dire effects. But however this may be, it is possible that the recent experimental work which has shown how easily in certain animals the tubercle bacillus may reach the bronchial glands *viâ* the intestines and the mesenteric glands without leaving in these latter any trace of its passage will render everyone capable of estimating danger disinclined to feed their offspring or even their invalids upon tuberculous milk. It is, therefore, not very reassuring to learn from the reports of Dr. William Collingridge, the medical officer of health of the City of London, that at least 8 per cent. of the milk sold within the City limits is derived from animals affected with tuberculosis. This fact is not, he adds, matter for surprise when it is remembered that out of 500 cows examined, after slaughter, by the city veterinary inspector some evidence of tuberculosis was found in no less than 46·8 per cent. From among 25 samples of milk quite recently examined two were found by Dr. Klein to be tuberculous. As regards the first of these the company to whom the milk was consigned at once discontinued the supply and caused the cows furnishing the milk to be examined by a veterinary surgeon who reported that all, "with the exception of five which have been turned away as showing suspicion of induration which may be tubercular or otherwise," were apparently healthy. In view of this we are glad to be able to record that the company in question arranged for a periodical inspection of the cows. As regards the second sample the veterinary surgeon reported that one cow "is suffering, in my opinion, from tuberculosis of both hind-quarters of the udder." Instances of this nature could be multiplied from the experience of other large towns which have obtained what are known as the Manchester milk clauses but we have said enough to indicate the importance, and indeed the necessity, of the bacteriological examination of milk and the periodical inspection of milch cattle. And altogether apart from tuberculosis there is the very obvious danger to be anticipated from a polluted milk of the conveyance of such diseases as infantile diarrhœa, sore-throat, diphtheria, and scarlet fever, as well as obscure conditions likely to arise from the careless addition of preservatives.

The establishment of numerical bacteriological standards for milk is no doubt a matter of considerable difficulty and we wish at this moment to insist more particularly upon the absolute necessity for cleanliness. In this direction we find ourselves able to derive support from a paper recently read before the Farmers' Club by Mr. F. J. Lloyd, F.C.S., F.I.C., upon the Relation of the Medical Profession to the Dairy Industry. This paper contains certain criticisms of the views of our profession which we do not propose to discuss further than to say that Mr. Lloyd has not thoroughly mastered this portion of his subject. We prefer to devote our space to the points on which we are in agreement rather than to those with which we are out of harmony, since we believe that we shall by this means be best serving the cause which we both clearly have at heart. Mr. Lloyd in the first part of his paper is mainly concerned with an endeavour to prove that what may be termed the bacterial purity of milk is by no means necessary and that the instrumentality of milk in the causation of tuberculosis and infantile diarrhœa has been over-estimated by our profession. We agree, however, with Mr. *Lloyd*, "*that milk to have its maximum value as an article of food must be drunk in a fresh and wholesome condition*," and that consequently "the *dairy farmer* who produces it and all those who have to deal with it should leave no stone unturned which will ensure both its purity and its cleanliness." We are also cordially with Mr. Lloyd in his warning to the dairy farmers that if they wish to prevent extreme legislation they themselves must take the steps to render such legislation unnecessary. From these considerations the writer of the paper goes on to advise the elementary, but little observed, points of cleanliness of the cowsheds, of the cows' udders, and of the milkers' hands, the rejection of the fore-milk, and immediate straining and *cooling of* the milk in thoroughly cleanly circumstances and under conditions where aerial contamination *from* dust is unlikely. To these data he would *doubtless* add by inference facilities for the speedy and *immediate transit* of the milk under conditions which, so far as practicable, will maintain the temperature to which it has been cooled and which will protect it from the dust and dirt associated with a railway journey. As Mr. LLOYD observes: "Even the dairy farmer must realise that the public have a right to demand milk free from disease germs and coming from healthy cows," and he adds that "if the dairy farmer will not take such steps as lie in his power to ensure healthy and clean milk he must not blame the medical profession if in their anxiety to protect the public health they go further than he considers justifiable."

Although Mr. LLOYD believes that the medical profession has already gone further than our present knowledge justifies he is good enough to add that in this country the profession has shown far more moderation than our colleagues in other countries and he trusts that while this moderation continues "the dairy farmer will realise the great responsibility which rests upon him to free his herds from disease and their milk from dirt." We echo these sentiments and we agree with him that it would be well for the dairyman to reckon with us while we are, so to speak, in the gate. We are satisfied with the evidence available that this elementary cleanliness which is so forcibly urged by Mr. LLOYD is not, as a general rule, practised, more especially in our rural districts, where a proposal to wash the udders of the cows and the hands of the milkers prior to the act of milking would often be greeted with derision and where the hind-quarters of the cows are not infrequently caked with filth. The cowsheds are often dark and dirty, the water-supplies far from satisfactory, and the milk utensils unclean. In our own experience the rural inspector of nuisances is all too frequently unacquainted with the Dairies and Cowsheds and Milkshops Order, or the regulations, if any, which have been drawn up under this Order. A much higher standard of cleanliness is desirable in every direction and such standards should be applied with more vigour and consistency. Some intelligent supervision on the part of county councils is, in our view, eminently desirable and we would suggest that Mr. LLOYD should use his influence to promote some such supervision. But it must not be forgotten that the milk as exposed for sale in milkshops and other places is generally kept under conditions which invite its contamination by dust and that much more attention should be devoted to this aspect of the question which is, of course, largely beyond the reach of the dairy farmer.

Cancer Cures.

THERE is an ancient legal maxim, "Ubi jus, ibi remedium," which is usually rendered into English as "There is no wrong without a remedy." We need not stay to inquire whether this aphorism will hold good universally in law. In medicine, unfortunately, the analogous principle that for every disease there is a remedy cannot be maintained at the present time, or if it be true, the remedies for many morbid conditions are utterly unknown to us. Year by year our powers of dealing with disease increase; many maladies which formerly were able to bid defiance to all our therapeutic measures are now almost completely under control. There are, however, unfortunately also many which refuse to be amenable to any form of treatment as yet known to us and probably the most striking member of this group is cancer.

It is now almost universally admitted that malignant disease is local in origin, though some constitutional condition may favour its appearance and spread. When cancer was thought to be "constitutional" in origin its topical removal by surgery was looked upon as impossible, but now that we feel sure that it is local in origin surgery can remove the disease completely if the operation be undertaken before the neighbouring lymphatic glands are involved or dissemination has occurred. At the present time, if the word "cure" can be applied to any procedure in connexion with cancer it can be applied to the early removal of the diseased tissues; but even in this case it is doubtful if "cure" is the most appropriate term to employ, for the diseased tisues have been removed and not restored to a state of health. This, however, is only a question of nomenclature and the fact remains that the early and complete removal of the cancer is at the present time the only satisfactory treatment of the disease. There remain, however, very many cases in which the complete ablation of the diseased tissues is impossible, whether from the original site of the cancer or from the extent of its spread and therefore some other method must be adopted. The attempts to get rid of the morbid growth have been many and every year sees the introduction of new remedies or the resuscitation of some already discarded. Every method is accompanied with a list of cases which have been "cured," but, alas, the results of the trial of the method by others are seldom so favourable as those first attained. Sometimes the new treatment is the outcome of theory. At one time it was imagined that cancer contained an acid and if this were so the obvious treatment would be the use of alkalies. ALLIOT in 1698 said that "the cure of cancer consists in the mollification of acids by alkalies and absorbents." Therefore ammonia was used both internally and externally and much benefit was said to have resulted. VOGEL in 1769 wrote a book called "De Curatione Cancri per Aquam Calcis Vivæ," and the results he described from the use of the lime water were excellent. The effects of chemicals on cancer cells have served to introduce some therapeutic methods. Methyl-violet was at one time used chiefly because it showed an affinity for the cancer cells as seen in sections under the microscope. BROADBENT in 1866 spoke highly of the local injection of acetic acid and the basis of this treatment appears to have been mainly the action of the acid on the cell walls and nuclei of cells on the microscopic slide, and therefore it "might be expected to do this when the cells were *in situ*." His results were certainly striking. It was suggested in 1809 by SAMUEL YOUNG that pressure might lessen the nutrition of a cancer and assist the absorption and several ingenious devices for effecting suitable compression were published. The best known of these was that introduced by NEIL ARNOTT and marvellous "cures" of cancer by these means were described but unfortunately we cannot be certain that the patients were really suffering from cancer. Recently trypsin has been recommended and one of the arguments in favour of its employment is that the secretion of the pancreas probably has a deterrent effect on the production of cancer, since malignant disease is rarely met with between the opening of the pancreatic duct and the ileo-cæcal valve—that is to say, in the part of the bowel where the pancreatic juice is active. As it is still being employed it is yet early to express a definite opinion. Other digestive liquids have, however, been employed long ago; gastric juice is said to have been useful and papain has also been tried.

Narcotic drugs would naturally suggest themselves as useful for allaying the pain but effects which might be called curative have also been described. Storck in 1761 first brought forward conium as a valuable remedy in cancer, though the drug was employed in the disease from a very early date. The drug was widely used and the most diverse opinions have been expressed as to its value. Storck looked upon it as almost infallible but Bayle decided that though it might relieve the pain and retard the progress of the disease it never cured. It is probable that the very great variations which occur in the composition of the preparations of conium may have something to do with the enormous variations in the estimations of its value. Sir Everard Home had a very high opinion of mezereon and at one time belladonna had many advocates. Chian turpentine had an ephemeral reputation some 25 years ago and the failures were ascribed to the use of a false variety of the drug; it was, indeed, difficult to know what was true Chian turpentine but it is wholly disused now. Two or three years ago violet leaves achieved a sudden notoriety from the publication of a remarkable case in which the growth had been examined microscopically and had been declared to be malignant by a competent authority. An infusion of the leaves was used both externally and internally. Other cases have been described in which results equally satisfactory have been obtained and at the present time the infusion of violet leaves is being widely employed but in many cases it does not seem to have had the slightest result. The close nervous association between the genital organs in women and the breasts, as shown by the enlargement of the breasts after childbirth and the involution of the breast which follows the cessation of menstruation, suggested to Dr. G. T. Beatson the possibility of removal of the ovaries controlling the growth of a carcinoma of the breast and a large number of cases has now been recorded, in some of which marked improvement or even disappearance of the tumour has occurred, and as many of the cases were instances of inoperable recurrent growths, in which there had been a microscopic examination of the primary tumour, the value of the observations is great but the more carefully the cases are investigated the smaller is the proportion in which improvement has occurred. Cancer has been ascribed both to too much salt and also to too little salt in the diet; nevertheless, the injection of sodium chloride has been said to do good. Of external remedies the number is great. We need say little of real caustics, such as arsenic, for if sufficient tissue is destroyed the disease may be removed; but belladonna, lead, mercury, and iodine seem to have had the greatest reputation. Substances so inert as silica and animal charcoal have been declared to be capable of "curing" cancer. Toads have been applied externally and many other remedies as strange have been highly recommended. In 1781 a Mexican physician, Florès, advised the administration of the flesh of the grey lizard but Bayle had a patient who swallowed more than 400 grey lizards within two months and yet received no benefit. In these latter days light rays and x rays have been shown to have a very decided curative action on the superficial forms of carcinoma, such as rodent ulcer, and it is now well established that these varieties of malignant disease are curable by such means. It is of interest to note that in 1776 Le Comte employed the rays of the sun concentrated by a lens in the treatment of a cancer of the lower lip and the growth is said to have disappeared. The value of "serums" in various diseases naturally suggested the attempt to prepare an "anticancerous serum." Doyen described a bacillus neoformans and from it prepared an anticancerous serum, from the use of which he obtained definite improvement but other observers have failed to get satisfactory results. In THE LANCET of April 7th (p. 955) Dr. A. Paine and Dr. D. J. Morgan described their observations on a series of cases in which Doyen's serum was employed but in no case was any benefit seen. Dr. O. Jacobs and Dr. Victor Geets of Brussels in the same issue of THE LANCET (p. 964) published a paper in which, while agreeing that Doyen's serum was valueless, they maintain that "it is practicable to immunise the human organism by means of a series of inoculations of the micrococcus neoformans vaccine provided that these are properly controlled by examinations of the opsonic power of the blood." We acknowledge the importance of this communication and await with interest the results of a further trial of the method.

In giving this brief review of the treatment of cancer we have omitted many drugs employed at one time or another but we have mentioned enough to show that many substances have been brought forward from time to time as curative of cancer and often detailed accounts have been given of the progress and improvement of the cases and yet in other hands the treatment has proved useless. To what are we to ascribe this apparent inconsistency? The chief explanation is to be found in errors of diagnosis. Even now, when we possess many aids to diagnosis which our predecessors did not have, errors as to the nature of a tumour are by no means rare. They must have been very common in the past. A chronic mastitis of the breast may be indistinguishable from carcinoma until cut into or even until a section has been examined microscopically. We can hardly imagine that pressure could cause the absorption of a true scirrhus of the breast and we are forced to believe that the cases in which the use of Arnott's pads was followed by disappearance of the tumour were in reality cases of chronic inflammation of the breast. Another factor in the production of the curious history of cancer cures is the irregularity of the course of cancer. Though as a rule a malignant growth steadily progresses to a fatal issue, cases are seen in which the diagnosis has been indisputable and confirmed by microscopic examination, yet for some unknown reason the extension of growth ceases, to be replaced by atrophy, and sometimes even the whole mass may disappear. This has occurred even when no treatment has been employed. If, however, there has been administered any drug at the time when the growth has diminished that drug will surely get the credit of the improvement and in this way the reputations of many drugs have been made. We must from a careful consideration of all the facts be led to the conclusion that in the vast majority of recorded cases where malignant growths have been said to be cured the growth was not cancerous, but we must express our dissent from the view maintained by some that the disease in all such cases was not really malignant because it was "cured." We have hope in the future. The discovery by Professor JENSEN of an inoculable form of malignant disease in mice has made it easy now for us to try the effects of remedies in a way which was impossible when we were limited to cases occurring in human beings. We think that by this discovery Professor JENSEN has done much to further the advance of the study of cancer and we heartily approve of the action of the Royal College of Surgeons of England in according to him the Walker prize. Not merely, however, in the cure of cancer when it exists but in the prevention of the disease the greatest future advance will lie.

Annotations.

"Ne quid nimis."

THE METROPOLITAN WATER BOARD AND THE CONTAMINATION OF THE RIVER LEA.

THERE has been considerable speculation amongst water experts during the week as to the reasons which have led the Metropolitan Water Board to drop its Bill providing for the better protection of the water-supply drawn from the river Lea. It would appear that the Water Board contemplated in its Bill the removal of one of its intakes from the Lea to a point higher up the river, a step which seemed highly desirable owing to the increasing volume of sewage which was poured into the river from the town of Hertford above the old intake. The supply of water taken from the river below the sewage outfall amounts, it is stated, to 32,000,000 gallons per day, while the Hertford sewer discharges about 2,000,000 gallons of crude sewage per day into the river above this point. These figures and statements if true are not calculated to inspire the confidence of the consumers living in the Eastern districts of the metropolis in the quality of the water supplied to them. On the contrary, a feeling of alarm may very justifiably arise, especially as it is common knowledge that the Metropolitan Water Board must have realised the seriousness of the situation or it would not have promoted a Bill dealing with it. The alarm is not likely to subside now that it is announced that the Lea Valley Bill has been withdrawn. We understand that the subject will be discussed at the next meeting of the Board and it is to be hoped that the reasons given for the withdrawal of the Bill will be reassuring to the public. Meantime it is conjectured that an alternate scheme has been proposed which possibly provides for the diversion of the stream of sewage discharged from the Hertford sewer. It is also stated that the Water Board is seriously considering the scheme promoted some years ago by the London County Council for obtaining a supplementary supply of water for London from the Welsh hills. But obviously such a scheme cannot meet the immediate needs of the situation as regards the alleged pollution of the river Lea above the Water Board's intakes. We may point out that this source of pollution of the water-supply derived from the Lea by the old East London Waterworks Company was referred to in the articles on the London water-supply which appeared in *THE LANCET* in 1897; the state of the sewage effluent is described there as varying considerably. Sir Alexander Binnie has given it as his opinion that a time would come, if the present state of things continues, "when there will arise among the teeming millions of London an epidemic which will startle the world" and compared with which the scope of previous outbreaks of water-borne epidemics will pale into insignificance. These are very strong words and seem to us to warrant a very searching inquiry into the real facts of the case. We have again and again pointed out that though the actual volume of the water provided by the Thames and the Lea may meet the existing needs of the metropolis for drinking purposes it must not be forgotten that year by year the strain put upon these rivers as channels for the disposal of sewage effluents is increased and the risk of pollution consequently is greater.

THE PLACE OF CRIMINOLOGY IN THE CURRICULUM OF LEGAL EDUCATION.

THE conflict between medical and legal opinion with regard to the criminal responsibility of the insane, which a few years ago was wont to give rise to so much acute and often acrimonious controversy in the Courts of Justice, has in our days ended in what may not unfairly be claimed as a full though tacit acceptance of the views of medical science. The crude psychology which inspired the M'Naughten rules, if it has not been explicitly repudiated, has at all events been abandoned in practice; and in criminal cases nowadays there is little fear that expert evidence of the fact of mental disease will be discounted on the score of any obsolete test of responsibility. But while this change of attitude is very satisfactory so far as it goes, it would certainly be rather rash to assume that it is the result of any profound knowledge and appreciation of the teachings of modern psychiatry and that the legal mind is so well informed on all that relates to the scientific study of the criminal that it will be able to give an unprejudiced consideration to the practical suggestions which may be founded on that study in the near future. It is to be feared that this permeation of the law by the modern spirit is still an ideal the realisation of which is somewhat remote and only attainable through strenuous efforts in which the medical profession must zealously coöperate. On this account peculiar interest attaches to the noteworthy example recently set us by our Gallic neighbours who have formally introduced the study of criminology into the curriculum of legal education. By a decree of the Council of the University a course of instruction in criminal anthropology, mental diseases, legal medicine, and cognate subjects has been instituted in the Paris Faculty of Law. The course will extend over two terms and will comprise lectures delivered by the professors in the faculties of law and medicine, supplemented by clinical instruction. Attendance on the course will be recognised, after the usual examination tests, by the granting of a *certificat d'études de sciences pénales*. In view of the generally hostile attitude hitherto adopted by the French magistracy to the ideas of the criminologists this step is of very great significance. Nor, it may be remarked, is the tendency which it indicates confined to France. In the University of Berlin a series of lectures on criminal anthropology has just been inaugurated and, though not in any formal connexion with the faculty of law, must exercise a considerable influence on legal opinion. Of course, the method of procedure in criminal cases in France, which demands of the *juge d'instruction* a good deal of insight into the criminal temperament, makes the need of such a system of training more apparent than it is in England. Such differences, however, as arise from this cause are relatively slight and superficial and do not affect the fundamental factors of the question, which are essentially the same in all civilised countries. It is, therefore, to be hoped that when the long-talked-of reorganisation of legal education in England eventually takes place something on the same lines will be established here and that it will be recognised as absurd that men should be called upon to judge of the quality and motive of diseased conduct who have never been trained to the study of morbid thought and action in the wards of the prison and the lunatic asylum. It is not to be denied, however, that in this country, at all events, there exists a feeling among those who have had practical and personal experience among criminals that there is some risk of overdoing "criminology" as a subject of education. This risk attaches more especially to the application of general results to individual criminals, but the question is one which it is desirable to follow out in the hope that lawyers and medical men may be able to bring their divergent opinions into greater harmony with each other.

THE TREATMENT OF RECOVERABLE CASES OF INSANITY.

In the management of cases of mental disorder in which the prospects of recovery are favourable the general practice would probably be correctly described as based upon the principle of as little interference as possible, incidental symptoms only, such as insomnia, violence, and refusal of food, being treated. The general practice may, in fact, be compared to that adopted in the case of maladies such as the specific fevers which must be allowed to run their course. On the other hand, there are not wanting those who advocate and employ methods which aim directly at cure. The relative merits of "expectant" and active methods of dealing with the cases in question are capable of demonstration by means of a comparative trial. In a pamphlet which we have received and which is entitled "A Plea for the more Energetic Treatment of the Insane" the author, Mr. Charles Williams, whilst disclaiming any desire to reflect upon asylum physicians, nevertheless considers that they as a class are deficient in the quality of zeal. There are, he contends, various methods by which at any rate some small addition to the recovery-rate of asylums might be made but this does not appear to be considered worth having. Amongst the methods instanced are the treatment by thyroid extract, electrical treatment in various forms, the prolonged warm bath, the Turkish bath, suggestion and the production of some somatic disorder which would favourably influence the course of the mental disease. Some of these methods lend themselves to adverse criticism. There are others which, whilst not mentioned in this pamphlet, are in good repute. A perusal of modern treatises upon insanity in which we find advocated various methods calculated to bring about cure or to hasten recovery in recoverable states does not support the view that recoverable cases are best left to nature and the nurse, though the convincing proof which a comparative trial of the kind we have suggested would afford is not furnished. Such a study, however, may well raise a doubt as to whether the average conditions under which the work of our public asylums is done are likely to foster that zeal which is the basis of all achievement or are compatible with the prosecution of research, the elaboration of methods of treatment, and the application of these with thoroughness in individual cases. The erection of "acute hospitals" for the treatment of recent and hopeful cases in certain rare instances at public asylums is evidence that such a doubt is legitimate. But whilst the motive which actuates such a development in a county asylum is admirable and the plan itself an advance on the average conditions, the asylum is still an isolated community and subject to the disadvantages in respect of scientific progress which isolation in no small degree connotes. The opinion is, and has for some time been, held by many able workers in the department of psychological medicine that such progress is most likely to accrue from the association of wards for mental cases with ordinary hospitals wards, an arrangement by which it is contended that collaboration would be facilitated and the advantage of laboratories for various branches of research work insured to the worker in the special department; whilst his activities would be stimulated by the presence of students and his output largely increased by the assistance of zealous clinical clerks working under his directions.

THE CLOTHES BRUSH.

The brushing of dusty clothes in the living rooms of the household is opposed to cleanly sentiment, apart altogether from the evil to health which, as the bacteriology of dust distinctly indicates, might easily be caused by the process. The imagination does not require to be stretched very far to realise that the clothes brush might be easily responsible for the dissemination of disease. Dust is rarely, if ever, free from micro-organisms and amongst them pathogenic entities have been recognised. Dust is, in fact, an enemy of the human race, a vehicle of disease, and should everywhere and on every occasion, however trifling, be prevented as far as means can be employed to that end. The clothes brush is a vigorous dust-producing agent and since its application is indispensable it should be used in a manner as far as possible consistent with hygienic requirements. Clothes, of course, must be brushed just as carpets must be beaten but both processes create a nuisance which is different not in kind but only in degree. Just, therefore, as there are grounds reserved for the beating of carpets remote, as they should be, from human habitation, so also ought there to be in a household conducted on hygienic lines a special room relegated to the brushing of clothes. Enthusiastic sanitary reformers would, no doubt, suggest that provision might also be made for trapping the dust by some such simple measure as suspending a damp sheet across the room. The daily clothes have a large capacity and a singular affinity for dust which may contain the seeds of a common cold or a sore-throat or even of blood poisoning and tetanus, so that the suggestion that the clothes brush should be handled in a less indiscriminate way than is usually the case can hardly be regarded as chimerical. If dust has been proved to be pathogenic the scattering of it broadcast by means of the clothes brush must be a violation of hygienic principles. The brushing of clothes is, in fact, a clumsy and an insanitary procedure which might with advantage be superseded by some more effectual and less offensive method. The use of some kind of vacuum brush for the purpose would, sanitarily speaking, be ideal.

SOME RECENT ADDITIONS TO THE MATERIA MEDICA.

The *Journal de Pharmacie et de Chemie* gives particulars of two new preparations of iodine which may prove of therapeutic value. It has been suggested by M. Chassevant that chloroform has advantages over alcohol as a solvent of iodine. The 10 per cent. solution when applied to the skin causes a brown stain which is less persistent than that produced by tincture of iodine. It does not cause desquamation, even in concentrated solution, or itching, or dermatitis, as is so often the case with alcoholic preparations of iodine. When applied in this manner iodine is readily absorbed and may be detected in the urine ten minutes after the solution has been applied. It is thought that iodine exists in solution in different allotropic forms, the chloroformic solution being violet in colour and the alcoholic solution brown. M. Chassevant considers the chloroformic solution to be the most suitable preparation for the internal administration of the drug. A new preparation of iodine for internal use has been devised by M. Vaudin. It is prepared by treating maisine, an albuminoid principle contained in the gluten of maize, with iodine. The product, iodomaisine, is a yellowish, hygroscopic substance, soluble in water and having a bitter taste. In daily doses of from 10 to 12 centigrammes it is easily tolerated by the stomach and has given beneficial results in emphysema, tertiary syphilis, and in other cases where the internal administration of iodine was indicated. The composition and uses of several new medicinal substances have been described in a recent number of the *Bulletin des Sciences Pharmacologiques*, including apocodeine hydrochloride, palladium chloride, aldol, malonal, and salene. Apocodeine hydrochloride is a yellowish powder, soluble in water, and is given as a laxative in place of codeine phosphate. It may be administered in doses of two cubic centimetres of a 3 per cent. solution. Palladium chloride, a brownish-black substance, soluble in water, is given in pulmonary tuberculosis in doses of from five to ten drops of a 3 per cent. solution. Aldol, an aldehyde alcohol, is a colourless liquid with an agreeable taste and a characteristic odour. It has been employed as a hypnotic. Malonal (diethyl-malonyl-urea) has been introduced for the same purpose. Salene is the name given to a mixture of the ethylic and methylic esters of salicyl-acetic acid. It occurs in white, odourless crystals, soluble in alcohol and in a mixture of olive oil and chloroform. It is used as a liniment in cases of lumbago and acute or chronic rheumatism, the solution being rubbed on the painful parts two or three times a day.

THE HEROISM OF THE MAN OF SCIENCE.

IF "*Peace hath her victories*" she has also her heroes, and the same may be said of science—never more impressively than in the day now passing. The Roman legionary who was found dead at the sea-gate in the Pompeii of A.D. 79, "waiting for orders to leave," has had his counterpart in the director of the Osservatorio Vesuviano, Dr. Vittorio Raffaele Matteucci who, when the recent eruption was at its worst and the whole countryside had fled in panic, remained on duty taking his observations and carefully registering them in the interests of science and, in the last resort, *pro bono publico*. Fortunately his life has been spared though not without physical lesion and his report of a volcanic convulsion, in some respects unprecedented, will shortly be available for his fellow workers in the same field of nature study. Heir to an honoured name in electro-biology, he was born 46 years ago at Sinigallia on the Adriatic and graduated at the University of Naples "in studiis naturalibus," subsequently devoting himself specially to "petrografia" and "vulcanologia" at the University of Heidelberg. On his return to Italy he entered immediately on investigations into the "osservazioni Vesuviane" which were to be his life-long task, fearlessly approaching the crater in its angriest moods and once, indeed, so injured in the knee by a "bomba volcanico" that he was lame for a considerable time. When four years ago he succeeded to the post of "Direttore dell' Osservatorio Vesuviano' and took up his abode on the ridge of the mountain, he showed himself worthy of his great predecessor, Professor Palmieri, whose work went on unperturbed amid showers of pebbles and ashes till on one occasion every pane of glass was broken in the Observatory which rocked to its foundations. Fortunate, like Palmieri, in his assistants Dr. Matteucci has for three years been ably and intrepidly reinforced by Dr. Di Paola, his right-hand man, by Dr. Cassorio, the next in command, and by the chaplain, Don Saverio Formisano, who, with four serving-men, complete the working staff. He also holds a lectureship in the University of Naples and enlists so many enthusiastic students in his special subject as to encourage the hope that seismology, still in its infancy, may before the century is much older give up its secrets to the researches now proceeding apace in the many volcanic or earthquake-visited regions of the old and the new worlds.

CHARING CROSS HOSPITAL POST-GRADUATE LECTURES.

POST-GRADUATE lectures dealing with general medicine and surgery have been given at Charing Cross Hospital for some 15 years. The lectures have been delivered on Thursdays only but the authorities have now decided to add Mondays as days for the delivery of lectures on special subjects. The summer course of the current year will commence on Monday, April 30th, with a lecture by Dr. James Galloway on a dermatological subject. On Thursday, May 3rd, Dr. H. Montagu Murray will lecture on a medical subject. The lectures will commence at 4 P.M. and will continue on Mondays and Thursdays from April 30th to July 5th inclusive. The full programme will be found in our advertisement columns of this week and a notice of the lectures will appear week by week in the "Diary." The fee for the full course is two guineas, or for either day singly one guinea. Practitioners wishing to join the course should communicate with the Honorary Secretary, Post-graduate Course, Charing Cross Hospital.

HÆMOPHILIA IN THE NEWLY BORN.

IN the *American Journal of the Medical Sciences* for March Dr. R. C. Larrabee has published an important article on the rare condition of hæmophilia in the newly born. Uncontrollable hæmorrhage in the newly born is seldom due to hæmophilia and appears to be generally due to some infection. Many organisms have been found at necropsies or in the blood during life. These include staphylococci, the streptococcus, the pneumococcus, bacillus pyocyaneus, the bacillus lactis aerogenes, and the bacillus coli. The course of the disease resembles that of an acute infectious disease and outbreaks have occurred in hospitals. So much attention has been lately given to the infectious origin of hæmorrhage in the newly born that the possibility of its being due to hæmophilia has been to a certain extent overlooked. Some writers have even denied that hæmophilia ever occurs in the first few days of life. No doubt it generally begins in later childhood but there are exceptions. In 1872 Grandidier collected 228 cases of spontaneous umbilical hæmorrhage and of these 14, or 6 per cent., occurred in hæmophilic families. Dr. Larrabee has been able to collect 37 cases of hæmophilia in the newly born. These include one observed by himself as well as those collected by Grandidier. No case was accepted as one of hæmophilia unless there was a family history of the disease or unless the child survived and in later life was a "bleeder." The 37 cases occurred in 24 families. 22 of the cases were fatal—a mortality of 60 per cent. The sex incidence was according to the rule in hæmophilia: out of 33 cases only six patients were females. On the other hand, in the cases in which the hæmorrhage was due to infection the sexes were about equally divided. The most common site of the hæmorrhage was the umbilicus or umbilical cord (23 cases, in 19 of which this was the only site). Other sites were the skin (seven cases), the nose (six cases), the bowel (four cases), the joints and genito-urinary tract (two cases each), an operation wound, the gums, and the stomach (one case each). In two cases the site was not stated. Although several writers state that circumcision is often the cause of the first hæmorrhage Dr. Larrabee has been able to find only one undoubted case. His own case is exceptional as regards sex and the manner of transmission. A girl was born at term after a normal labour. The membranes were ruptured artificially and in doing this a minute scratch was made on the child's head. The hæmorrhage from this was never controlled. The child weighed 5 pounds and was apparently normal. The cord was tied in the usual way but after a few hours slight hæmorrhage occurred from the cut end. This continued irregularly in spite of several ligatures. On the second day epistaxis occurred and then hæmorrhage from the rectum, the stools being large and black with some bright red blood. On the same day purple spots began to appear, first on the face. Blood came from under the finger nails and even appeared to ooze from the unbroken skin. Prostration was marked and the temperature was constantly subnormal. On the fifth day there was a copious hæmorrhage from the vagina and death soon followed. There was a family history of hæmophilia for five generations. In the first generation an ancestor of the patient emigrated from England to America in 1757; there was a tradition that his brother bled to death. He had three sons and one daughter, none of whom were "bleeders," but in the succeeding generations there were 22 cases of hæmophilia, of which 11 were fatal. However, many of these cases were merely traditional. The transmission was not according to the usual rule. Out of 15 known and well-marked cases the disease was inherited through the male in 10. Possibly this preponderance was more apparent than real, because information concerning the descendants of female members of the family was defective Genealogies in the female line are neglected because they are not considered of much interest. It is important to bear in mind that hæmorrhage in the newly born is generally due to some infection and not to hæmophilia.

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Baron Takaki, F.R.C.S., Surgeon-General of the Imperial Japanese Navy, will deliver a series of lectures at St. Thomas's Hospital on May 7th, 9th, and 11th, at 5.30 P.M., upon "The Preservation of Health Among *Personnel* of the Japanese Army and Navy" based on his experiences in the late Russo-Japanese war. The lectures will be of the greatest interest and applications for tickets should be made to Mr. G. Q. Roberts, Secretary's Office, Medical School, St. Thomas's Hospital, London.

Professor G. Sims Woodhead will give an introductory address, entitled "Past and Present: the Pathology of Skin Diseases," at the opening of the summer session at St. John's Hospital for Diseases of the Skin, Leicester-square, London, on Tuesday, May 1st, at 5 P.M.

THE President of the Local Government Board has appointed Mr. A. W. J. MacFadden, M.B., C.M. Edin., D.P.H., late medical officer of health of Edmonton, to the office of assistant inspector of foods in the medical department of the Board.

Sir William Collins, M.P., will give an address on Monday evening next, April 30th, at 8 o'clock, at the Royal Eye Hospital on "The Study of Ophthalmology; its Relation to General Medicine and Surgery."

THE annual dinner of the Pharmaceutical Society of Great Britain will be held at the Whitehall Rooms of the Hotel Metropole, London, on Tuesday, May 15th, at 7 P.M.

THE annual general meeting of the London and Counties Medical Protection Society will be held on Friday next, May 4th, at 4 30 P.M., at 31, Craven-street, Strand, London.

THE annual dinner of the Chelsea Clinical Society will be held at the Criterion Restaurant, Piccadilly Circus, London, on Thursday, May 3rd, at 7.45 P.M.

THE annual dinner of the Royal Sanitary Institute will be held in the Langham Hotel, Portland-place, London, on Wednesday, May 9th, at 7 P.M.

THE annual general meeting of the Medical Defence Union will be held on Thursday, May 17th, at 4 P.M., at the Grand Hotel, Birmingham.

VACCINATION EXPENDITURE.—At the meeting of the Tiverton (Devon) board of guardians held on April 10th it was stated that during the three years preceding the passing of the Vaccination Act the cost of vaccination in the Tiverton union was £150, whilst for the five years after the passing of the Act the fees amounted to £900.

UNIVERSITY COLLEGE, READING.—We have received the new prospectus of this college which was founded in June, 1892. The college consists of departments of letters and science, agriculture, horticulture, music, the fine arts, and commerce, and provides teaching for about 1500 day and evening students. It is affiliated to the University of Oxford and is recognised by the Board of Education as a day training college and by the Royal Colleges of Physicians of London and Surgeons of England as a place of instruction in natural science. In addition to lecture and class rooms it contains zoological, botanical, chemical, physical, and bacteriological laboratories, art studios, students' library, and common rooms. The spring term commenced on April 25th. The autumn term will commence on Oct. 24th. Full particulars of the courses of study are given in the college calendar, which can be obtained (price 1s., post free) on application to the registrar, University College, Reading.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held at Lisbon, April 19th—April 26th, 1906.

THE Fifteenth International Congress of Medicine was opened in Lisbon on Thursday last, April 19th, under the patronage of the King and Queen of Portugal. The arrangements of the Congress have been made by an Executive Committee assisted by a large committee of organisation, and, as our Special Correspondents on the spot have been able to report, these arrangements have worked thoroughly well.

The President of the Congress is M. Costa Alemão, and the Executive Committee consists of the President; Professor Miguel Bombarda, the general secretary; M. Alfredo Luiz Lopes, the treasurer; M. Antonio de Azevedo, M. Mello Breyner, M. Azevedo Neves, and M. Mattos Chaves, assistant secretaries; M. Annibal Bettencourt, Professor Clemente Pinto, Professor Daniel de Mattos, Professor Ricardo Jorge, M. Silva Carvalho, and M. Zeferino Falcão. All these gentlemen were on the committee of organisation, where they were assisted by some 36 other prominent Portuguese professors and men of science.

The Congress was formally opened by the King, who was accompanied by the Queen and Queen Dowager, at the Salle de la Société de Géographie, where the section of Colonial and Naval Medicine was to hold its meetings and where a colonial exhibition of considerable interest had been organised. The representatives of no less than 24 nationalities replied to the official welcome extended to their countries, and the proceedings closed with an eloquent speech from President Ribeiro, the new Premier.

On the same evening an inaugural reception was held at the new School of Medicine, where a scanty attendance on the part of British congressists was attributed to the absence of all who had travelled by the *Ophir*, the passengers of which were unable to land.

Work began in the sections on Friday morning, while in the afternoon members of the Congress were invited to a reception by Sir Francis Cook (Viscount Monserrat) at his magnificent gardens near Cintra.

THE INAUGURAL CEREMONY.

(FROM OUR SPECIAL COMMISSIONER.)

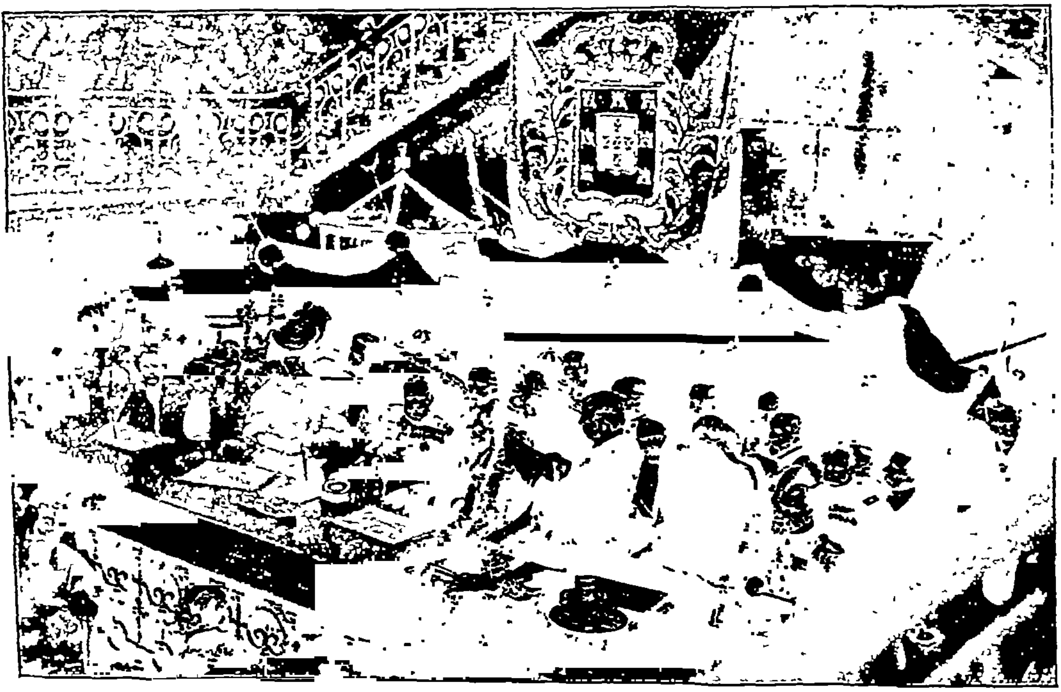
Lisbon, April 20th.

The Geographical Society possesses a long room or hall which serves as a museum. It is surrounded by glass cases containing curios and is lofty enough to have two galleries going all the way round. Its main support consists of iron girders and pillars; in fact, it looks something like the machine gallery of a theatre. It is possible to crowd a great number of persons in these two galleries and on the floor of this vast hall but the general effect is not impressive. Shortly after half-past one on Thursday afternoon the Government representatives began to gather upon and round the platform. As many were army surgeons they wore their uniforms and these, together with the university gowns which the British contingent largely affected, lent a more lively tone to the scene. The platform was raised scarcely two feet from the floor and was quite level. The distinguished members who crowded this small and but slight elevation hid each other from the great mass of spectators and members sitting in front. It is obvious that a platform should slant so that those who sit at the back can see and be seen. We may abuse the Madrid Congress but it is doubtful whether there was ever such a brilliant scene as that of the opening ceremony. This, it will be remembered, was held at the Grand Opera House where the huge and slanting stage was converted into a platform by being walled in with gigantic carpets from the State factory. Undoubtedly a large opera house is admirably suited for ceremonies of this description, a fact brought home to me when I recalled the ceremony at Madrid three years ago and compared it with that of to-day. It is true that we are not so numerous on the present occasion but nevertheless the great hall of the Geographical Society was quite filled with a number of ladies as well as gentlemen. From the end furthest from the platform a string band had difficulty in making itself heard amid the clatter of so many voices and different languages.

Soon after 2 o'clock, and in spite of the noise, the crowd became aware that the band was playing the national anthem and therefore surmised that the King must have entered. Soon His Majesty Dom Carlos was seen walking up the centre of the hall. Three monumental chairs had been placed behind the table on the platform. The King occupied the central chair, on his right sat Her Majesty the Queen and on his left the Queen Mother. The Royal party were flanked on the right by the President of the Congress, Councillor Costa Alemão, and on the left by the general secretary of the Congress, Professor Miguel Bombarda. A few representatives of foreign Governments who happened to be near at hand were presented to the King. There then ensued a moment of deep silence and expectancy which was only broken when the King, in a clear resonant voice and speaking the purest French, began his address.

HIS MAJESTY first rendered homage to the labour to be undertaken by the Congress. This he did in the name of the whole nation because he was its supreme magistrate. He offered an open-hearted and cordial welcome to all the members of the Congress who had come from so many different countries to Portugal. In Portugal all were animated with the desire to share in such work as that of the Congress. They were inspired with feelings of solidarity and fraternity towards other nations. There was the religion of duty, the duty of the citizen to the State to which he belonged, the duty of the State towards other States. To relieve suffering and pain was the great work of the members of the Congress and the State must help in this beneficent work. The members of the Congress would relate what they had done, how they had fought against a multiplicity of evils, and the victories they had won. By such endeavours they had saved more lives than wars had destroyed. At times their progress was slow but it was irresistible in its action. Peoples were citizens of the world and each nation must do its duty towards other nations, so as to facilitate the realisation of the measures and principles necessary to preserve life. Personally, His Majesty insisted that he was an ardent student of the natural sciences and therefore was fully able to understand and to admire the work of the men of science who were attending the Congress. His beloved Queen had, on her side, taken so active a part in organising the struggle against tuberculosis that she had by her acts proved how much she was at heart with the work of the Congress. His Majesty concluded by saying that he was proud to preside over such an assembly and that the advent in Lisbon of so many distinguished men was an honour to Portugal. He then declared the Congress open.

The speech was warmly applauded, especially the reference to the endeavours of the Queen in helping to provide means for the struggle against tuberculosis.



Scene at the opening ceremony of the Fifteenth International Congress of Medicine. Professor Bombarda, Secretary General, is reading the inaugural statement. The Queen, in white, is sitting on the King's right and beyond her is Dr. Costa Alemão, President of the Congress. Dr. Pavy may be recognised in the *foreground*.

Councillor COSTA ALEMÃO, who spoke next as President of the Congress, expressed his gratitude to the King and the Royal Family for their help and then thanked the members of the Congress for their attendance.

Professor MIGUEL BOMBARDA, as secretary general of the Congress, followed and read out a mighty array of statistics showing how many papers and reports had been contributed to the Congress and how much had been done to render it a success. He managed to make a few compliments to the different nationalities represented, to the England of Harvey and the France of Pasteur, nor did he forget Japan which was represented on the platform by Dr. Oishi. The celebrated Japanese bacteriologist, Dr. Kitasato, was expected to attend but has unfortunately been detained.

Now commenced the apparently indispensable speeches from the different nationalities. The speeches are taken in the order of the alphabet according to the French titles, so that Germany began.

Professor W. WALDEYER of Berlin concluded his remarks by saying that as the Portuguese navigator had named the Cape of Good Hope in anticipation that he would discover the sea route to India, so also had they the good hope that this Congress would lead to new and important discoveries in medicine.

Professor H. **OBERSTEINER** then spoke for Austria and was followed by the representative of the Argentine Republic.

Dr. **DEJACE** spoke for Belgium and hoped that during the twentieth century there would be no other war than the war against disease. Then came in rapid succession the spokesmen for Bulgaria, Chili, Colombia, and Denmark. Dr. C. **CORTEZO**, on behalf of Spain, where the last Congress had been held, alluded to the great interest taken in Spain in the arduous work of organising the present assembly.

Dr **RICHARD** spoke for the United States and praised the beauty of Portugal and Lisbon.

Professor **CORNIL** spoke for France and Sir **DYCE DUCKWORTH** for Great Britain. The latter elicited loud applause by addressing the Royal Family and the Portuguese people in Portuguese. He urged that the pursuers of scientific knowledge were above the strife of politics and in the name of his countrymen, and his countrywomen also, he thanked the Portuguese for their warm-hearted welcome.

The representative of Greece who followed naturally claimed to be the fellow countryman of Hippocrates. The Hungarian spokesman alluded to the effects of such congresses in enabling men of science to meet and to encourage each other.

As usual, the Italian representative was really eloquent. Dr. **SANTINI** spoke in his own beautiful language and his sentences rang out as sweet music; and though not many persons present understood fully what he said, still he stirred his audience by such oratorical sentences as the following: "Ed è altresi per me ragione di onore e di letizia porgere alla splendida Lisbona, la vetusta e vaghissima Regina di Occidente, città Principe della Lusitania, che tante vanta radiose glorie nei fasti più puri delle colonizzatrice civiltà, ed è alle sorelle latine genti carissima, l'affettuoso saluto di Roma italica, dell'ALMA MATER, la quale infra il fiorente rinascimento di ogni terra latina, oggi, quasi più che secolare madre, ama delle latine genti nomarsi sorella amorosissima." When, finally, he concluded with further salutation to the land of Vasco de Gama from the land of Christopher Columbus he fairly brought down the house. Japan was represented by Dr. Shigekichi Oishi of the Imperial Japanese navy, and the mere mention of the word Japan sufficed to bring forth loud applause. Then came in rapid succession the representatives of Mexico, Monaco, Norway, and Dr. Pineaple for the Netherlands, who brought the good wishes of the Queen of Holland for the success of the Congress. Like the Portuguese, the Dutch, he said, were great navigators and claimed the ocean as their common mother.

The Roumanian representative, however, capped this by asserting that the Roumanians and the Portuguese belonged to the same Latin stock and said that he had been struck by the many things he had seen in Portugal which reminded him of his native Roumania. Now came the delegates of Russia, Sweden, and Venezuela. The Venezuelan was the twenty-fourth nationality speech and it was with a sigh of relief that the Congress heard that the representatives of the other nations were absent or had foregone their right to speak.

Professor **POSNER** of Berlin then rose as the newly elected President of the International Association of the Medical Press. Though a German, Professor Posner spoke in French because French is the official language of the association He explained that the association which he represented had held its general assembly during the last two days in Lisbon and had commissioned him to express the goodwill of the medical press towards the Congress. Under its present eminent patronage the Congress was sure to be a success An international movement, based on the desire to group together the medical journals of the world, had in the persons of its principal representatives come to pay homage to the Portuguese people. With the efficient aid of Professor Miguel Bombarda they had successfully accomplished their mission. That this should be so was a matter of importance for the Medical Congress. Now that the press had done its business it was quite ready to attend to the business of the Medical Congress and would echo in all countries whatever beneficent work might be accomplished at Lisbon for the greater good of humanity.

This speech, which was well received, was followed by an address from His Excellency Senhor **HINTZE RIBEIRO**, Premier and President of the Council of Ministers. Perhaps the opening passage of this speech gives the best idea of the eloquence of the Premier of the "Conservative-Progressive" Government which came into office only a few weeks ago. The Premier said:—

"Sire, Majesty,—More than many other homages, those of the messengers of universal science will have rejoiced your heart. In your memory the stirring words just pronounced will ever remain engraved. You may be well pleased with them. You, Madame, who have chosen medicine for the ally of your generous benevolence in the holy crusade against afflicting scourges; you, Madame, who have always and everywhere distributed the most beautiful flowers of that sublime virtue which is called charity; you, Sire, whose mind is ever alert, and who as a learned and humanitarian monarch have been so good as to address in person your august salutations to this pilgrimage of science—you have inaugurated, by words that will ever remain memorable, this cosmopolitan work of peace and solidarity in which sentiment and intelligence surpass each other so as to increase the value of health and of human life." The Premier concluded his oration by quoting the great Portuguese poet, Camoens, when he said that "to medicine would come a new light." This might serve as a motto for the Congress and if the new light came on the present occasion then it would carry the name of Portugal all over the world.

The Royal party rose and slowly wound their way through the crowd out of the great hall, stopping on the way to talk to some of the members of the Congress. There was now a little interval for rest or for seeing some of the sights between the conclusion of the inaugural meeting and the reception which the President of the Congress was to give later in the evening.

Reception at the New School of Medicine.

In the evening of Thursday, at the New School of Medicine, all the members of the Congress were received by its President, Councillor Costa Alemão. This is the first time that a large number of persons have penetrated this building, which is so new that it can scarcely be said to be quite finished. The chairs had only been brought in during the day. The bareness of the walls was concealed by artistic silks and tapestries, while here and there a handsome carpet had been unrolled on the floor at the very last moment. Indeed, for those who had seen the place a few days ago it is wonderful how much has been done in a very short time. In the central court the band of the Municipal Guards, which is one of the best military bands in Portugal, discoursed sweet music all the evening. It played, among other things, an international march composed of several national anthems. At the top of the building there was a buffet which many congressists did not find out but to which others did full justice. The chief pleasure, as is usual on such occasions, is the meeting of old friends and the making of new acquaintances. In this respect it was particularly noticed that the large portion of the British contingent that came by the *Ophir* were not present. Apparently these passengers are in no wise satisfied. They say that the boat was overcrowded and that there were not enough stewards on board to attend to their needs. Perhaps some of the complaints are exaggerated, but if half of what I have heard is true then they must have had an unpleasant time. One thing, however, is certain. The ship is moored away from shore on the Tagus which here is so broad as to constitute an arm of the sea. To land is a matter of time and the boatmen charge extra when it is rough. Even the steam tender which plies backwards and forwards is a small boat and its passengers get splashed in bad weather. Therefore, yesterday evening the passengers remained on board the big ship and did not expose themselves to the bad weather, but in so doing they missed the reception at the School of Medicine. The Germans, on the contrary, are delighted with the *Oceana* of the Hamburg-American line, where they met with every attention, had excellent food, and plenty of cabin room. Further, instead of casting anchor in mid-stream, the German ship is moored alongside the Lisbon quay and the passengers go in and out freely day and night; in fact, the ship is as convenient as an hotel. The ships of the Booth Line also anchor in midstream, but, such being the case, they provided hotel accommodation on shore for all their passengers and have been assiduous in attending to them ever since. One *of their agents, Mr. E. Garland*, has indeed become very popular among the British visitors stranded here as strangers in a truly strange land. Complaint is made that at some of the hotels the Portuguese waiters are very incompetent and there is occasionally considerable difficulty in getting a meal served without much unnecessary loss of time. In regard to the *Ophir* I am told that the Congress committee in London made arrangements that the ship should come up alongside the river embankment as the *Oceana* has done. Further, it is stated that the money for the right to moor alongside was actually paid, when some persons suddenly conceived the idea that it would be dangerous to do so. There might be a sewer outfall close to the ship and it would not be safe to be so near the town. This is a matter on which the people at Lisbon feel very sore, they are very anxious to get some authorised pronouncement as to this supposed danger to ships that come close to the shore. In the meanwhile the mooring of the *Ophir* in mid-stream has been the cause of preventing a great number of the British members from assisting at the brilliant and pleasant reception held on the opening day of the Congress at the new School of Medicine.

THE SECTIONS BEGIN WORK.

April 21st.

On Friday morning the sections were to begin work at 8 30. Having by previous and extended experience of international congresses acquired some knowledge of what this might mean, I did not allow such futile announcements to disturb my sleep. It was nearly 9 30 in the morning when I reached the new School of Medicine Most of the persons who were already present were looking after their badges, guide-books, invitations to festivities, or buying picture postcards. Still, being now fully an hour behind the announced time, it seemed to me that I should make quite sure that nothing really important was going on in the sections. In that of Obstetrics, which occupies one of the largest rooms, I found just 15 persons including some ladies who had probably gone there because there were some pretty tapestry on the walls and comfortable chairs to lounge upon and to gossip for they did not belong to the section. Military Medicine has but a small room and that was already fairly well filled. The section had actually got to work, so that "military punctuality" is not a vain term after all. The section on Urinary Diseases was very scattered. A good many persons were there, perhaps 30 or 40, but they were all talking to each other. The best example of the effects of calling upon the sections to meet too early in the morning that came to my notice was in the Otological section. Here two members, and only two members, of the section had arrived. They had very wisely opened the window and stood out on a small balcony contemplating the magnificent view of the valley and the hill and castle of Lisbon beyond. It was delightful and they were also smoking very good cigars. In the Rhino-Laryngological section there were 11 members present but they had not opened the window and they only smoked cigarettes. The President occasionally stepped up to the table and gently tinkled a little silver bell but no one took the slightest notice, so the President left the table and the presidential chair to join in the general conversation. In the Pediatrics (surgical) section there were 14 persons and a German member was solemnly reading a long paper to them. By this time it was nearly 10 o'clock which is the earliest hour at which it is practicable to begin work considering the difficulties that assail strangers living in crowded hotels; therefore I proceeded to my own section—that of Hygiene—which I found had just begun business with an audience of 20 persons. The number, however, soon increased and we had an interesting discussion which I hope to describe on a subsequent occasion.

All the sections adjourned early so as to join in the excursion to the magnificent gardens of Sir Francis Cook at Monserrat, near Cintra, so it does not appear that very much work was done anywhere. In the Dermatological section I am told that nothing of importance is expected. There are not many papers and of these several have already been published. The members of the section do not seem to think that they can instruct each other and so I rather fancy the meeting and discussions will not be prolonged in this section but its members will have more time to enjoy the beauties of the country.

During the first morning the subject discussed in the section on Therapeutics was the Effect of Exercise on Arteriosclerosis. In the section on Neurology, Professor **RAYMOND** of the Salpêtrière Hospital read a good paper on the Danger of Mercury in the Treatment of General Paralysis.

To-day, Saturday, there was no attempt to start the work of the sections at too early an hour. Consequently they were better attended when they did commence business. Also, the members have now got most of the tickets and other things that they wanted, so were able to get to work with greater facility. A considerable number of important papers were read to-day, and there was a very ardent debate at a mixed meeting of the fourteenth and seventeenth sections on the Prophylaxis of Yellow Fever. This afternoon the first of a large series of lectures and demonstrations was given, including a very interesting report on the above subject by Professor Rubert W Boyce of the Liverpool School of Tropical Medicine. So that now it may be said that the Congress has got fairly into harness. If the sections have been somewhat dilatory it is the fault of the members themselves. So far as the organisation of the Congress is concerned, all was ready for them. Nor have I, as yet, heard any complaints concerning the management in general of the Congress. It is, perhaps, too soon to say much about this but so far all promises well.

THE SECTIONS.

GENERAL PATHOLOGY, BACTERIOLOGY, AND PATHOLOGICAL ANATOMY.

Professor **HANS CHIARI** (Prague) read a paper upon

The Relations between the Pancreas and Fat Necrosis.

He said that this condition was given its present name by Balser in 1882. An extensive literature on the subject has appeared since that time and numerous experiments prove that fat necrosis is etiologically dependent on the action of the proteolytic ferment and the fat ferment of the pancreatic juice in presence of certain pathological changes in the pancreatic tissue. Wounds of the pancreas must obviously permit its juices to escape, but quite apart from this if there is any deterioration (*Schädigung*) of its structure and if juice possessing functional activity continues to be formed this secretion may disintegrate the deteriorated cells and by means of this tryptic self-digestion the pancreatic juice may arrive at the exterior of the gland. There exist in the pancreas some special conditions which do not occur in any other considerable gland but are to some extent represented in the phenomena of pepsin self-digestion of the stomach, a condition which may result from a great number of causes leading to deterioration of the walls of the stomach and failure of them to resist the action of the gastric juice. This tryptic self-digestion of the pancreas does not necessarily produce identical effects on the general health of the individual. On the one hand, the consequences may be extremely serious, such as extensive hæmorrhage into the pancreas and its vicinity, the formation of hæmorrhagic cysts in the position of the pancreas, localised or diffuse necrosis of the pancreas, suppurative pancreatitis due to the admission of bacteria, and the development of pancreatic sequestra, all this being very often associated with abundant fat necrosis. On the other hand, the tryptic self-digestion of the pancreatic tissue may be insignificant in extent, the fat necrosis may be harmless, and in course of time the symptoms of a lesion of the pancreas may disappear. Not much is known regarding the etiology of the stage preceding the self digestion of the pancreas. The severe cases are most frequent in corpulent persons and habitual drunkards. The connexion between true inflammation of the pancreas and self-digestion requires further elucidation.

Dr. **ERNEST FRANCIS BASHFORD**, director of the laboratory of the Imperial Cancer Research Fund, London, read a paper upon

The Classification of the Sarcomata.

He said that the sarcomata were connective-tissue new growths as distinguished from the carcinomata which were epithelial new growths. Sarcomata with all the features of malignant new growths were found throughout the mammalia and in marine fishes living in a state of nature. They had therefore the same zoological distribution as the carcinomata. Sarcomata, if they occurred in inaccessible sites, were clinically indistinguishable from carcinomata. Experimentally sarcoma was as difficult to transfer to another individual as carcinoma, and indeed the complete demonstration of the transmission of a sarcoma from one individual to another has not yet been furnished. There was no evidence that the sarcomata were infectious new growths. Carcinoma and sarcoma had so many features in common that they were probably manifestations of an identical or similar process in the epithelial and connective tissues respectively. The demarcation of the sarcomata from the granulomata, which were also new growths of connective-tissue origin, was not easy. By microscopical and clinical examination alone it was not possible to determine in some cases to which group a tumour should be assigned. Tumours have frequently been described as sarcomata when in reality they were infective granulomata yielding a high percentage of success in transmission experiments. Inoculation therefore afforded a means of recognising the true nature of some doubtful new growths and of establishing definite distinctions between the sarcomata and those forms of infective granulomata of which the specific causative organisms have not yet been isolated. The same method might also be expected to throw light on the relation, if any, existing between the various forms of leukæmia, Hodgkin's disease, chloroma, and other obscure conditions associated with enlarged lymphatic glands, and sarcoma on the one hand and granulomata on the other. The classification of the various forms of the sarcomata at present in vogue was morphological and histogenetic. For growths with well-marked differentiation, such as osteo-sarcoma or chondro-sarcoma, it was doubtful if in the present state of knowledge a more satisfactory classification could be devised.

Professor ERICH MARTINI (Berlin), staff surgeon in the German navy, read a paper upon

Trypanosomiasis.

After a general reference to human diseases in which spirochætæ were found and to the effects of trypanosomiasis affecting the lower mammals, birds, fish, &c., he proceeded to consider the latter disease in the human subject under the two headings of African trypanosomiasis and kala-azar. African trypanosomiasis was known as trypanosoma fever in its early stages and sleeping sickness in its later stages. It was conveyed by the glossina palpalis and was an exclusively African disease. Kala-azar and other febrile cachexiæ caused by the same parasite occurred principally in India but have been seen in Africa as well. The first account of sleeping sickness was published in 1803 by Dr. T. M. Winterbottom who had observed it in Sierra Leone. It has occasionally been conveyed to America by imported negroes but has never spread there. The parasite was discovered by Dr. J. S. Dutton and Mr. R. M. Forde in 1901. The preliminary latent stage might vary from two to eight years; the onset of the sleeping sickness stage was followed by death in from four to eight months. No method of immunisation was possible and prophylaxis depended entirely on the use of mosquito nets, wire gauze, and gloves as a protection against the glossina. Treatment consisted only in the use of palliative measures. Kala-azar (*Anglice*, black fever) was so called because in the early stages the patient's skin was sometimes pigmented. A considerable number of observers have taken part in elucidating the pathology of the disease. Although the insect by which the parasite was conveyed has not been positively identified the methods of prophylaxis recommended against African trypanosomiasis might be tried. No specific treatment was known. The patient's diet must be carefully selected on account of the frequency of intestinal complications.

Dr. A. LAVERAN (Paris) read a paper upon

Prophylactic Inoculations against Protozoal Diseases.

He discussed the subjects under the three heads of malaria, piroplasmosis, and trypanosomiasis. With regard to the first it was well known that negroes, although by no means exempt from malaria, nevertheless thrived in countries so malarious as to be uninhabitable for persons of other races. This partial immunity was peculiar to the negro and there was no evidence of its occurrence among the natives of the malarious regions of Europe. Various forms of piroplasmosis occurred in cattle, sheep, dogs, and horses. There were two forms of bovine piroplasmosis—namely, Texas fever and Rhodesia fever. Animals which have survived an attack of either variety were immune against that variety but not against the other. Texas fever did not attack native cattle but imported cattle died from it in large numbers. Various attempts, more or less successful, have been made to produce immunity by inoculating healthy animals with the blood of convalescents. Animals might be infected with the trypanosoma Gambiense or parasite of human sleeping sickness, but those which recovered were not rendered immune. Rats, on the other hand, might be easily immunised against the trypanosoma Lewisi.

Dr. SWALE VINCENT, professor of physiology in the University of Manitoba, read a paper upon

Internal Secretion and the Ductless Glands.

He said that the term "internal secretion" seemed to have been first used by Claude Bernard who, in his "Leçons de Physiologie Expérimentale" described the glycogenic function of the liver as the *sécrétion interne*, while he referred to the preparation of the bile as the *sécrétion externe*. The structures usually included at the present time under the title of ductless glands were the thyroid gland, the parathyroid glands, the cortical suprarenal gland, the medullary suprarenal gland, the pituitary body, the carotid and coccygeal bodies, and possibly the thymus. It was believed that these ductless glands manufactured and poured, directly or indirectly, into the blood stream some substance or substances which were of service to the economy, either by supplying a need or by destroying other substances which were needless or positively harmful. This last function was usually ascribed to the thyroid and parathyroid glands; the theory obviously assumed the existence of a process of auto-intoxication. In his summary of the theories which have been proposed as to the function of the suprarenal capsules Professor Vincent said that the two chief theories were (1) the auto-intoxication theory and (2) the theory of internal secretions. The former was supported by Abelous and Langlois, who believed that toxic substances, the products of muscular metabolism, tended to accumulate in the organism and that the function of the glands was to remove or to destroy these. The internal secretion theory, on the contrary, asserted that the suprarenal capsules were continually secreting into the blood an active material, adrenalin, which was of benefit to the muscular contraction and tone of the cardiac and vascular walls and even of the skeletal muscles. Although the theory of internal secretion appeared to have the balance of probability on its side, the direct evidence in favour of the secretion of material into the blood-stream was, however, very slight. The auto-intoxication theory would seem to require the assumption that adrenalin was a waste product soon about to be eliminated, while the internal secretion theory supposed that it was a product of glandular activity manufactured for use in the economy. It was not yet possible to express definite opinions on the subject.

Staff-Surgeon Professor ADOLF DIEUDONNÉ (Munich) read a paper on

Prophylactic Inoculation against Infectious Diseases.

He said that the procedures employed for this purpose were (1) inoculation with virulent living pathogenic microbes; (2) inoculation with attenuated living pathogenic microbes; (3) inoculation with dead bacteria; and (4) inoculation with bacterial extracts. The first-mentioned of these was but little used; the second was exemplified by vaccination for small-pox and by antirabic treatment; the third was applied on a large scale against cholera, enteric fever, and plague; and the various forms of treatment by tuberculin were the principal examples of the fourth. Inoculation with dead bacteria was first attempted in the human subject by Kolle. He found that specific protective substances (bacteriolysins and agglutinins) were produced in considerable quantity after a single injection of small quantities of dead cultures grown on agar and that the existence of these protective substances was perceptible even a year after the injection. As a prophylactic against cholera and plague Haffkine used bouillon cultures several weeks old; and as a prophylactic against enteric fever, Professor A. E. Wright used bouillon cultures which after growing for 48 hours had been killed by exposure to a temperature of 65° C. Professor Dieudonné gave some account of the results obtained from the inoculation against enteric fever of German soldiers sent to South-West Africa since January, 1905 More than 5000 men were inoculated, usually between the collar-bone and the nipple. With most of them the general reaction with malaise and a temperature rising as high as 39° C. took place in from two to five hours, but these symptoms completely disappeared in from 12 to 16 hours and the local effects did not remain longer than 48 hours. When enteric fever made its appearance the mortality was 4 per cent. among the inoculated and 11 per cent among the uninoculated. Among the uninoculated the proportions of severe and mild cases were respectively 25 and 42 per cent, whilst among the inoculated the proportions of severe and mild cases were respectively 10 and 66 per cent.

MEDICINE.

The Treatment of Cirrhoses of the Liver.

Dr. R. SAUNDBY (Birmingham) read a communication on this subject. He said that it was a question whether interstitial hepatitis in itself gave rise to any symptoms which attracted attention other than the mechanical disturbance of the circulation. The main symptom of importance which really depended upon the hepatitis was ascites. Coincidently with the obstruction in the liver of the portal circulation a collateral circulation developed and as the progress of the hepatitis was slow it was probable that but for some accident occurring this collateral circulation would always be compensation enough for the ordinary portal circulation to prevent ascites. Sudden congestion of the liver from an alcoholic debauch was the most common cause of the equilibrium being upset. When fluid had been poured out into the abdominal cavity it constituted a hindrance to the venous circulation by raising the intra-abdominal pressure. For this reason diuretics were useless to remove the fluid and hydragogue cathartics might set up a fatal enteritis. Paracentesis was therefore the best method of removing the fluid. It should be performed as soon as the fluid had accumulated sufficiently to cause discomfort and should be repeated as often as the fluid re-accumulated. By repeated punctures there was fair prospect of re-establishing the circulation. When repeated tapping was not successful in preventing the return of the dropsy the Talma-Morison operation might be performed. This consisted in opening the abdomen and stitching the omentum to the abdominal wall, so as to increase the area of the collateral circulation. Prolonged drainage after the operation did not seem to be justifiable. But the value of the operation should not be over-estimated and as a rule simple repeated tapping sufficed. Where, however, this did not suffice the Talma-Morison operation was indicated. It was not fair to postpone it until the patient was moribund As for hæmatemesis, which was the other symptom directly dependent upon the hepatitis, it and ascites were mutually exclusive and rarely occurred in the same individual except just before death. The treatment of hæmatemesis was purely palliative and consisted in rest, abstinence from food, and the application of an ice-bag, together with a hypodermic injection of morphine.

The International Prophylaxis of Tuberculosis

M. SAMUEL BERNHEIM (Paris) read a paper upon the above subject. He referred to the notice taken of the matter at the Congress on Tuberculosis held in London in 1901 and to the formation of an International Bureau to deal with tuberculosis, the seat of which should be at Berlin, and to the foundation of the Société Internationale de la Tuberculose, which had its headquarters at Paris. Tuberculosis should be a matter for the consideration of international hygiene just as much as were plague, cholera, and yellow fever. The markedly free intercourse among various nations which was characteristic of these present times made it easy for tuberculosis to spread, and the disease was specially rife amongst those employed in traffic of all kinds, notably among sailors and among railway servants In the navy tuberculosis was common and its existence was made easy by the almost necessarily unhygienic conditions of life which exist on board of a modern battle-ship. It was also extremely common on modern cargo ships As regards land traffic, railways were responsible for the spread of tuberculosis to a marked degree. In fact, as Brouardel had said, "The railway industry has, as regards the spread of tuberculosis, an influence throughout the territory which is affected thereby, comparable to that exercised by the army and the navy." M. Bernheim's conclusions were as follows. The prophylaxis of tuberculosis should be an international matter. The most rigid rules of prophylaxis, even if accurately carried out, were useless if only applied to one country. Unless the neighbouring countries, or, indeed, those more distant, carried out the same or similar rules, prophylaxis in any particular country was rendered of no effect. Regulations for the international prophylaxis of tuberculosis should be laid down comparable to those already decided on at various international conferences, such as those at Paris in 1894 and at Venice in 1897, in regard to plague, cholera, and yellow fever. An international commission composed of authorised representatives of the various nations should be appointed and should compare the various regulations existing in the respective countries represented. Then an international code of prophylactic regulations against tuberculosis could be drawn up. "If," concluded M. Bernheim, "there is a question, which in its very essence is catholic and which merits the attention and watchfulness of the *savants* of the whole world, it is that of tuberculosis. But it will never be solved save by the union of the intelligence and the goodwill of all the nations."

The Pathogenesis of Arterial Hypertension.

Two papers were communicated to the Congress upon this important subject, the one by Dr. TRUNECEK (Prague) and the other by Dr. HENRI HUCHARD (Paris).

Dr. TRUNECEK pointed out that arterial hypertension could be divided into two great classes. The one was called spastic hypertension and was due to a narrowing of the calibre of the blood-containing vessels; the other was called plethoric hypertension and was due to an increase in the contents of the blood-vessels. One quality was common to both these types—namely, a rise in the blood pressure. Putting aside cases of congenital narrowing of the blood-vessels, or of a possible "plethoric habit," which had a theoretical rather than a practical value, he passed on to consider the pathological condition of hypertension. As to spastic hypertension its main cause was probably some alteration in the bio-chemical qualities of the blood. Its characteristic symptom was a pulse strong and full in the large arteries and hard and small in the little arteries. The arteries, especially those of medium calibre, became hard and tortuous. Moreover, in patients who had suffered for some time from hypertension various affections due to anæmia arose. Thus cerebral anæmias gave rise to transitory aphasias or paralyses. Pectoral anæmia gave rise to anginas. Abdominal anæmia gave rise to alternations of diarrhœa and constipation or to a discharge of urine at one time of low specific gravity, abundant and limpid; at another scanty, concentrated, and full of urates. Peripheral anæmia gave rise to the well-known phenomena of "dead fingers." With regard to plethoric hypertension its mode of origin was very obscure. It might be divided into polycythæmic plethora and serous plethora. Its characteristic symptom as compared with spastic hypertension was a pulse strong and full in the great and little arteries. The capillaries and veins were distended and the arteries were neither hard nor tortuous.

Dr. HENRI HUCHARD commenced his paper by saying that the subject of arterial hypertension had occupied him for many years, and more especially as it affected the heart. The results of arterial hypertension naturally divided themselves into three sections—the physiological, the pathological, and the therapeutic. As to physiology, compression of an artery diminished the blood pressure on the distal side of the point of compression and increased it on the proximal side, this increase being proportional to the calibre of the artery and consequently to the flow of blood through it. The heart, however, could adapt itself to varying pressures. Experiments had shown that if the arterial tension were constantly augmented the cardiac valves became œdematous and exhibited punctiform hæmorrhages. Vascular tone depended not only upon the myocardium, the mass of the blood, and the vessels, but also upon the action of certain glands. Some glands, such as the suprarenal body, secreted a hypertensive substance; others, such as the thyroid body or the liver, secreted a hypotensive substance. As to pathological consequences, arterial hypertension could, and did, produce arterio-sclerosis, the various circulatory troubles which were often so evident at the menopause and at puberty, migraine, and, in addition, arterial hypertension had a most injurious effect upon aneurysms. The condition also played its part in lead poisoning, gout, diabetes, hæmorrhages, of which it may be either the cause or the cure, Raynaud's disease, and various "neuralgias." The gastric crises in tabetic subjects were often preceded by a rise in the blood pressure, and in heart disease and affections of the vessels its influence was most marked. In the brain it gave rise to cerebral hæmorrhages and to the transitory aphasias seen in pregnant women or in those affected with arterio-sclerosis. Increased arterial tension may also be the cause of sudden attacks of cardiac dilatation seen in acute infectious disease and especially in scarlet fever. As to therapeutics, hygienic measures were of the first importance. The diet should be principally milk or milk and vegetables or a simple "dechloridated" *régime*. Of drugs the most useful were the nitrites. The working of the kidneys must be carefully watched and to assist the elimination of urinary toxins theobromine was exceedingly useful. Ovarian extract might be of use in the *arterio-scleroses* of the menopause. Although many medical men believed that calomel in small doses could lower arterial tension Dr. Huchard did not feel the same confidence in the use of that drug.

Cerebro-spinal Meningitis.

Dr. JUDICE CABRAL (Lagos) communicated a long paper upon this subject. The paper was really a monograph upon epidemic cerebro-spinal meningitis and we cannot do more in the space at our command than indicate the main points of what was an exhaustive essay upon the disease in question. Dr. Cabral commenced by dividing the various forms of meningitis by the method of dichotomy into those that were tuberculous and those that were not. He then gave the differential points of diagnosis between these two forms. With regard to the non-tuberculous forms of meningitis these again might be divided into two groups. In the one came epidemic cerebro-spinal meningitis, the cause of which was a definite microbe, the diplococcus intracellularis of Weichselbaum, and those due to the pneumococcus, the streptococcus and other microbes, not appearing secondarily to the incidence of the microbe on the pulmonary system or elsewhere, but as primary affections. In the other group were the forms of meningitis evidencing themselves as complications of other disorders, such as typhoid fever, influenza, and the specific fevers. Dr. Cabral then passed to consider the main subjects of his essay—namely, epidemic cerebro-spinal meningitis. He gave a historical retrospect of the disease and then discussed its etiology, the specific bacillus, and the influence of locality, season of year, sex, occupation, and personal conditions, such as lactation and pregnancy. Methods of invasion, the question of contagion (on the whole, it would seem that the disease was contagious), were next considered. The general and special symptomatology were then dealt with from observations upon 178 patients seen during the epidemic in Portugal of 1901–02. As to the outcome of the disease, recovery with or without some organic or functional defect was the rule, but the death-rate was high—namely, 40 per cent. The average duration of the disease in cases which recovered was from 16 to 35 days. Dr. Cabral then described the post-mortem appearances, discussed the diagnosis and prognosis, and concluded with directions for treatment. In his opinion the best method was lumbar puncture either alone or followed by the injection into the spinal canal of a 1 per cent. solution of lysol or of cyanide of mercury. The application of leeches to the mastoid apophyses and wet cupping along the spinal column were also useful, as was the administration of calomel, opium, and the bromides. Large enemata (two litres) of plain boiled water or the same with the addition of a slight purgative might also be said to be almost always of service. The whole essay deserves the careful attention of medical men, worked out, as it is, from personal observation of a number of cases in a quite recent epidemic.

Professor ANTON WEICHSELBAUM (Vienna) read a paper upon

Cerebro-spinal Meningitis.

He said that in nosology this term was not applied in its widest signification but was restricted to the class of cases in which the disease assumed the epidemic form. Every variety of the disease which tended to become intermittent or chronic was caused by the micrococcus meningitidis cerebro-spinalis, an earlier name of which was the diplococcus intracellularis meningitidis. In a few cases of exceptionally acute type the disease has been caused by the diplococcus pneumoniæ and the streptococcus mucosus. The micrococcus was found principally in the meningeal exudation and in the mucus of the naso-pharynx. In epidemic times it might be found in the latter situation in persons who were suffering only from catarrh and had no symptoms of meningitis. It was therefore probable that the cavity of the naso-pharynx was the channel through which the micrococcus both found an entrance and was also conveyed from the sick to the healthy during the acts of sneezing, coughing, speaking, &c. As it had very little resisting power it was not likely to be dangerous when mixed with dust. The disease might be either sporadic or epidemic. Sporadic cases might occur year after year, often without any connexion between them being known other than the fact of vicinity. Epidemics never broke out suddenly. The disease extended itself gradually and chiefly in houses which were overcrowded, damp, dark, and not kept clean. Epidemics generally began in winter or spring; children and young persons were especially liable to be attacked. For the purpose of diagnosis cerebro-spinal fluid obtained by lumbar puncture must be subjected while perfectly fresh to microscopical and cultural examination.

PEDIATRICS.

M. CARLOS FRANÇA (Lisbon) read a paper on

The Varieties of Cerebro-spinal Meningitis.

The only useful classification of these varieties was one based on the causal agency in operation. He had adopted Osler's classification with slight modifications. Having recently dealt with a large number of cases of epidemic cerebro-spinal meningitis M. França gave a minute description of the malady and discussed each symptom separately with regard to its presence or absence in the other forms of meningitis. 271 cases of epidemic cerebro-spinal meningitis had been studied bacteriologically and in every case the typical diplococcus intracellularis of Weichselbaum had been isolated. With regard to the treatment M. França considered that the baths usually recommended, though undoubtedly beneficial, were so painful to the patients as to be often an impossible remedy. Lumbar puncture, on the contrary, was well borne and produced visible improvement. Great care was necessary for its proper performance. A fine platinum needle should be used one-quarter of a millimetre in diameter and 0·05 of a metre in length. The lateral decubitus was the position ordinarily recommended for the operation but M. França preferred to have the patient seated on the edge of the bed, the legs either hanging or bent and crossed and the trunk inclined well forward, thus producing the greatest possible separation of the lumbar vertebræ. A line joining the iliac crests passes across the fourth lumbar space and a line joining the postero-inferior iliac spines passes through the fifth lumbar vertebra. The needle is introduced a centimetre outside and a little above the arch above which the puncture is to be made. The needle should be directed a little obliquely up and in towards the median line; if no fluid comes at once slight rotation and withdrawal will cause it to appear. At the beginning of the malady puncture may be required daily, or even several times daily, according to the necessities of each case. In most cases from 40 to 50 cubic centimetres is sufficient to withdraw at one time. In several cases, after removal of from 25 to 50 cubic centimetres of cerebro-spinal fluid, injections of lysol (1 in 100) were made—from 12 to 18 cubic centimetres in the case of adult patients and from three to nine cubic centimetres in the case of children. M. França summed up his conclusions thus: 1. There are as many varieties of cerebro-spinal meningitis as there are microbes capable of living in the meninges. 2. The symptomatology of the different forms does not vary with the cause sufficiently to make diagnosis of the cause possible by that means. 3. Epidemic cerebro-spinal meningitis, caused by the diplococcus of Weichselbaum, is the only meningitis with a perfectly definite morbid entity. 4. The cause of the meningitis can be discovered only by the examination of the cerebro-spinal fluid. 5. The best treatment at present of the bacterial forms of cerebro-spinal meningitis (the tuberculous form alone excepted) is lumbar puncture, followed by antiseptic injections into the spinal canal. 6. Lumbar puncture is the curative treatment for non-bacterial forms of meningitis and is at least palliative in the tuberculous form. 7. Lumbar puncture is, and will be, the chief element in the diagnosis, prognosis, and treatment of the forms of meningitis.

Cerebral Palsy in Children.

Dr. GEORGE F. STILL (London) read a paper on this subject with special reference to etiology. His clinical observations had not led him to agree with the usually accepted theory that infantile hemiplegia was always of post-natal origin. Out of 49 cases investigated two were certainly congenital and seven were possibly, if not probably, congenital. Severe asphyxia at birth, in his opinion, was often undoubtedly a cause of idiocy and might reasonably also affect the motor centres. Asphyxia had occurred in 17 cases of spastic diplegia and in four of spastic paraplegia. 11 out of 25 cases of spastic paraplegia were born prematurely. Parental syphilis played but a small part in his statistics. It had been suggested that post-natal cerebral palsies were of infective origin, pathologically identical with acute anterior poliomyelitis, but infantile hemiplegia had not a similar seasonal incidence and epidemic occurrence and there were at present no scientific grounds for this assumption of identity.

Dr. M. A. BROCA (Paris) read a paper on

The Treatment of Abdominal Tuberculosis.

Only five years ago surgeons and physicians had pronounced almost unanimously in favour of surgical treatment for all cases of tuberculous peritonitis. Nowadays there was a reactionary party entirely in favour of medical treatment. The most recent surgical statistics showed positive cure two years after operation only in about 30 per cent. of cases operated upon. At the time when surgery was just coming to the fore Perrouo's statistics (1875 to 1888) of medical treatment showed a death-rate of 50 per cent.; of the remaining 50 per cent, 14 per cent. were lost sight of, 22 per cent. were only improved, and only 4 per cent. were positively cured. It was an indubitable fact that simple residence in hospital sufficed to cure many cases and certain surgical successes were in reality due to the medical after-care, proper food, air, and light obtained in a hospital. Many cases ran a benign course with spontaneous cure, and in France Alleaume, Grange, A. Martin,[1] and R Gœpfert had published statistics of cures after residence at the seaside; in Germany Rose[2] reported 52 cases, one-third of which were cured; and in America Guthrie[3] reported 41 cases; out of 14 operated upon seven had died and out of 27 not operated upon only four had died. All these statistics were untrustworthy because the after history of the patients had not been followed up for more than a year after apparent cure. The prognosis and treatment varied according to which of two great groups the individual case belonged to: (1) where the peritoneum alone was involved; and (2) where there were also present generalised lesions, acute, subacute, or chronic. Dr. Broca then discussed the several recognised clinical varieties of tuberculous peritonitis. Firstly, the form with more or less acute onset and rapid collection of ascites. This usually subsided rapidly, but if the absorption of fluid was slow it was probable that fibro caseous formation was taking place and laparotomy was then indicated, without peritoneal lavage or drainage. Secondly, there was a variety in which the ascites was encysted, hard and soft masses were palpable, and hectic fever was present. Little or nothing could be done for such cases either by physician or surgeon. Occasionally these cases healed spontaneously by passing on to a fibro-adhesive type. The surgeon should be on the watch for local abscesses which should be opened. Thirdly, there were peri-cæcal and pelvic varieties which required surgical intervention; sometimes simple laparotomy sufficed and sometimes removal of the tubes and ovaries was required Fourthly, surgical intervention was indicated in all cases with complications, such as intestinal obstruction, acute or chronic.

Professor ADOLPH LORENZ (Vienna) read a paper on

The "Bloodless" Treatment of Congenital Dislocation of the Hip

After some introductory remarks he proceeded to give a description of the technique of the operation, with which most of our readers are familiar. An operator must, he said, have no doubt as to the success or failure of his performance, a skiagram was useless as a control. Professor Lorenz then summarised his experience as to the length of time required for fixation after the operation; this varied so greatly with the age of the patient that no precise rules could be formulated. The result of the operation varied with the age of the patient, the most favourable ages being from the third to the fifth year, the seventh year was the limit at which a double dislocation could be successfully treated, and the ninth year was the limit for a unilateral dislocation.

Professor SALAZAR DE SOUZA (Lisbon) read a paper on

Orthopædic Surgery for Spastic and Paralytic Deformities of Nervous Origin.

He discussed cases met with after anterior poliomyelitis and Little's paralysis. In anterior poliomyelitis transplantation of tendons had not given so good results as similar operations for paralysis following trauma. This was explained by the fact that the so-called "healthy" muscles in a limb affected by anterior poliomyelitis were never or only rarely quite healthy. Ankylosis of the joints was more often indicated than transplantation of tendons. For spastic paralytic deformities the best methods were tenotomy, stretching of the tendons followed by over correction and fixation in plaster. Transplantation would be reserved for obstinate cases, due either to long duration or to exaggerated contractions accompanied by manifest atrophy of the antagonistic muscles. Then the steps to be taken were: (1) tenotomy of the contracted muscles; (2) permanent abolition of part of these muscles by means of (3) the transference of their energy to the antagonistic stretched muscles. In cases of spastic diplegia of cerebral origin the results were never good; the joints might require to be fixed and tenotomy performed so as to permit of the adjustment of some orthopædic apparatus.

Dr. P. REDARD (Paris) also read a paper on this subject. He considered first the paralytic deformities consequent on partial or total destruction of the nerve supply of the muscles of the limbs, in which the surgeon had to contend against both the paralysis and the deformity. At the present day the chief method was transplantation of tendons, and the lower extremities gave the greatest field for this form of surgery. The spastic deformities were next reviewed, and he pointed out the necessity of distinguishing between true contractures, with exaggerated reflexes, normal electrical reactions and disappearance under chloroform, and false or pseudo-contractures, with absent reflexes and persistence under chloroform. The principal surgical operations in vogue were considered under the headings: (*a*) forcible replacement; (*b*) operation on the tendons: (1) tenotomy, stretching, and shortening of tendons, (2) anastomosis of muscle and tendon by various methods of transplantation, (3) transplantation of the tendons into the periosteum, (4) transplantation with artificial tendons, and (5) tendinous fixation; operation on (*c*) the aponeuroses and muscles; (*d*) the capsules and ligaments; (*e*) the bones; (*f*) the joints; (*g*) the nerves; and (*h*) the skull and vertebræ. The value of these methods and their indications in paralytic and spastic deformities respectively were next considered at length and the conclusions were drawn that the tendinous transplantations and neurotomies were only of occasional use. Tenotomy was useful in spastic deformities such as Little's disease, spastic hemiplegia, and diplegia. Torticollis and facial spasm did better with psychotherapy. Where groups of muscles were paralysed transplantation was indicated. Nerve anastomosis and nerve suture were useful in traumatic cases, obstetrical paralysis, and sometimes in infantile paralysis.

M. P. HAUSHALTER (Nancy) and M. R. COLLIN (Nancy) communicated a paper on

The Classification and Pathology of the Spastic Affections of Infancy.

A brief summary was given of the opinions of the leading neurologists on the symptoms and clinical relationships of the various spastic affections of infancy—spastic infantile hemiplegia, spastic diplegia, monoplegia, athetosis, and the several forms of *congenital* spastic rigidity unaccompanied by paralysis. The term Little's disease was nowadays employed to indicate cases of spastic diplegia in prematurely born infants. The clinical causes, such as protracted labour or asphyxia at birth, shed no light on the classification of rigidity. In order to arrive at any reasonable solution of the problem it was necessary to study the anatomical conditions underlying all types. In order of frequency these were (1) cerebral atrophy and sclerosis; (2) meningo-encephalitis; (3) porencephalus; (4) hydrocephalus; (5) small convolutions; (6) cerebral softening; (7) histological alterations in the pyramidal tract without macroscopical lesions; and (8) lesions in the centre of the cord. A detailed analysis of the recorded cases from 1885 to 1904 was given and the conclusion was drawn that out of 56 cases on which a necropsy was performed, in 52 the lesion was in the brain and in two only was it in the spinal cord. Of the 52 cerebral lesions, in 51 cases the lesion was found in the anterior part of the brain and was mainly superficial, the central nuclei having been only rarely involved. With reference to spinal lesions Déjérine had made a careful study of two cases with sclerosis in the cervical region of the cord; his facts were of the utmost importance because they proved that the only essential factor in cases of spastic rigidity was a lesion involving the pyramidal tract in the spinal cord. Thus it had been demonstrated that in the two groups of causes—cerebral and spinal lesions—the common factor was an alteration of the pyramidal tract in the spinal cord. This pathological alteration might consist of destruction, more or less complete, defective formation, or absence of the tract. Arrested development of the pyramidal tract could not account for all the symptoms, however; if such were the case all infants born at seven months would have rigidity. The lesion was always in the upper motor neuron; the reflex arc with the motor cells in the anterior horn of the cord remained intact. The evolution of the theories relative to rigidity in general, and to infantile rigidity in particular, were then reviewed—the strychninism of Charcot, the theories arising from Adamkiewicz's idea of muscle tonus, the evidence of Jackson and Bastian as to the influence of the cerebellum (1896), and the careful observations of van Gehuchten and Déjerine. Grasset's theory of three stages of neurons (1899) explained more clinical facts than did that of any previous writer but up to the present no theory adequate to explain all cases of rigidity had been presented.

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[1] Thèses de Doctorat de Paris Alleaume, 1893-94, No 422, Grange, 1901-02, No 3.2 and A Martin, 1903-04, No 321.

[2] Rose Mittheilungen aus den Grenzgebiete der Medicin und Chirurgie, 1901, p. 11

[3] Guthrie: Archive of Pediatrics New York, April, 1903, p. 241.

SURGERY.

Dr. **BARTHÉLEMY GUISY** (Athens) read a paper on

Chronic Urethritis and its Treatment.

He said that under the term chronic urethritis is included every chronic, painless inflammation of the mucous membrane of the urethra of gonococcal origin, even though no gonococci may be present. There are three main varieties: (1) those in which gonococci are still present; (2) those which are microbic but gonococci are absent; and (3) those in which no organisms are to be found. The spread of a gonococcal urethritis from the anterior to the posterior urethra and to the deeper structures is due partly to the active movements of the gonococci and partly to the movements of the leucocytes which have swallowed them. Within a few hours of infection of the urethra gonococci can be found in the submucous tissue and around the glands of the urethra. The reasons for a urethritis becoming chronic are: (1) the presence of some constitutional condition, such as general weakness or rheumatism; and (2) certain special anatomical conditions in the urethra, such as a stricture or an abscess. Dr. Guisy thinks that stricture of itself has very little to do with the production of a chronic urethritis. The most important cause is the gonococcal infection of the glands of Littré and the crypts of Morgagni, from which repeated reinfection of the urethra may proceed. The treatment of chronic gonococcal urethritis consists, in the first place, in its prevention by the abortive treatment of acute gonorrhœa with extensive lavage of the urethra with various antiseptic solutions. In a chronic urethritis, if examination shows gonococci still to be present, the same treatment should be adopted as if the inflammation were acute, any vegetations, abscesses, or other gross lesions having been previously removed. Cocainisation of the urethra is necessary before the lavage is commenced and very weak solutions of permanganate of potassium and of perchloride of mercury are the most useful. When success does not follow, some lesion, such as a granulation or polypus, must be sought for and removed. In cases of chronic urethritis in which some organism other than the gonococcus is present similar treatment should be adopted and even when no microbe is present lavage should be used. In all cases the only internal treatment should be the administration of urotropin and arheol after the local treatment has ceased.

Mr. **REGINALD HARRISON** (London) read a paper on

Surgical Interference in Medical Nephritis.

He said that tension in itself may do permanent harm to the kidney, as in acute inflammation and in chronic inflammation, also where the capsule is thickened and contracted. In some forms of renal inflammation therefore surgical interference may be useful and the indications are: (1) progressive signs of kidney deterioration, as shown by the persistence or increase of albumin when it should be disappearing from the urine; (2) actual or threatened suppression of urine; and (3) where a marked disturbance of the heart and circulatory system occurs in the course of inflammatory renal disorders. As to which kidney should be selected for operation it is not material unless pain is present on one side. Usually the relief of tension in one kidney aids the other. In one case where acute suppression of urine followed an operation for internal urethrotomy there was intense pain over one kidney. Mr. Harrison did a renal capsulotomy and this was followed by the restoration of the urinary secretion and recovery of the patient, though only three ounces of blood-stained urine had been excreted in the 54 hours intervening between the operation on the urethra and the division of the capsule of the kidney. The operation consists in the exposure of the kidney by a lumbar incision and in a linear incision through the capsule two or three inches long; a drainage tube is then inserted so as to remain in contact with the kidney and the wound is sutured and dressed.

Dr. **ALFRED POUSSON** (Bordeaux) read a paper on this subject and said that four operations have been suggested for acute nephritis—namely, nephrectomy, total or partial, nephrotomy, and decapsulation. Nephrotomy acts by relieving tension and by local bleeding. Decapsulation only reduces the compression of the kidney. The mortality of all forms of surgical interference is only 15·4 per cent. and the patients who have survived the operation have done well. This mortality justifies surgical intervention in acute nephritis, but only in severe cases which have failed to respond to medical treatment. Acute nephritis is often unilateral and the affected side can generally be diagnosed, especially by means of cystoscopy and separation of the urines of the two kidneys. In cases where both kidneys are affected the treatment of one often relieves the other. Nephrotomy is the operation of choice for acute nephritis. Nephrectomy should be reserved for cases where there are severe lesions limited to a single kidney. Decapsulation is much inferior to incision of the kidney. In chronic nephritis surgical intervention can do much but it should only be employed where medical treatment can do no more. Nephrotomy is less dangerous than decapsulation and it should be preferred. It is difficult to speak with certainty but decapsulation seems to be the only operation which gives a hope of a radical cure of chronic nephritis but it is best to combine with it a unilateral nephrotomy.

Dr. **FÉLIX LEGUEU** (Paris) read a paper on

The Surgical Treatment of Prostatic Hypertrophy.

He said that when the prostate is hypertrophied prostatectomy is the only operation which deserves consideration and it is specially indicated when the hypertrophy has caused chronic retention and regular catheterisation has become necessary. There are two operations, the perineal and the suprapubic; of these two the perineal route is less dangerous but it is not always successful, while the suprapubic method is more dangerous, but if the patient recovers he will be completely cured. Dr. Legueu certainly prefers the suprapubic method and he considers this method indicated in all cases where the prostate is large and projects into the bladder; the suprapubic operation is also preferable when the middle lobe is well marked; also in cases where the enlargement is definitely adenomatous and therefore the prostate can be enucleated. The condition of the patient must also be considered and the stronger and younger patients are more suited to the high operation. The perineal operation is indicated where much sepsis is present as the bladder is better drained.

Dr. **ALBERT FREUDENBERG** (Berlin), in his paper on this subject said that there is no method of treatment which is applicable to all cases of prostatic hypertrophy, though in turn several operations have been acclaimed as the best method. There is no doubt that vasectomy is the least dangerous but the results are very poor. On behalf of Bottini's operation it may be said that patients are more willing to undergo it and therefore it can often be done before infection of the urinary passages has occurred. It causes less interference than prostatectomy and can be carried out with local anæsthesia. Moreover, sexual power is not lost and there is no risk of a permanent urinary fistula. In favour of prostatectomy it may be said that it needs no special experience in urinary surgery or special instruments and that there is less risk of recurrence than in Bottini's operation. On the whole, Dr. Freudenberg considers that Bottini's operation is a milder operation than prostatectomy and therefore more suited for weak and elderly patients; it should also be used in young patients when it is desirable not to interfere with the sexual power. It is also suited for small and middle-sized prostates. Where it is not possible to gain an idea as to the size of the prostate before the operation the suprapubic method is preferable.

OPHTHALMOLOGY.

Secondary Cataract.

Professor N. MANOLESCU (Bucharest) read an interesting paper upon this subject before the section in which he dealt fully with the causes of secondary cataract, its different anatomical and pathological features, the operative procedures recommended with their prognosis, and the preventive courses that can be adopted. The causes are most commonly direct irritation, which prevents the absorption of lenticular fragments remaining after cataract extraction, and indirect irritation or infection from syphilis, tuberculosis, gout and albuminuria, or rheumatism. Operation for secondary cataract Professor Manolescu considered to be invariably a serious one and one that is followed in the experience of different operators by many complications, such as inflammation more or less grave of the corneal wound, of the iris, choroid, and ciliary processes, panophthalmia, sympathetic ophthalmia, and tertiary cataract. He proceeded to summarise briefly the procedures usually adopted by various authorities for avoiding these unfortunate sequelæ and considered that the preventive methods might be summarised under six heads: (1) the original extraction should be as complete as possible, only ripe cataracts being operated upon; (2) a large fragment of the anterior capsule should be removed; (3) appropriate measures must always be taken against infection, especially of the ciliary region; (4) the posterior capsule must be incised after the complete cessation of all post-operative irritation if the formation of secondary cataract is suspected; (5) where complete removal of all lenticular fragments has been impossible mydriatics should be used until their disappearance; and (6) all individual diatheses must be appropriately treated.

Intra-ocular Tuberculosis.

Mr. E. TREACHER COLLINS (London) read a report upon this subject based upon his own clinical and pathological experience, with quotations from the writings of others where these have been imperfect or incomplete. He said that he had collected 18 cases in which the eye had been excised for intra-ocular tuberculosis, the specimens of which were preserved in the Royal London Ophthalmic Hospital, and a tabular statement of the clinical and pathological details of these cases will be published in the official Transactions of the Congress. After briefly showing that intra-ocular tuberculosis had been recognised for at least 100 years and been diagnosed ophthalmoscopically for 50, Mr Collins pointed out that at the present time we possess three tests—the histological, the experimental, and the bacteriological—by which the tuberculous character of a growth in the eye can be determined. A new growth in the eye showing histologically the aggregation of cells, known as giant cell systems, and also areas of caseation, may be almost certainly pronounced tuberculous. Experimental tests by inoculation from eyes affected with tubercle give such uniform results that this method must be regarded as one of the most certain that we possess. Bacteriological tests are not so sure, for failure to find the specific bacillus in cases of undoubted tuberculosis of the eye has been a common experience among excellent observers and skilled microscopists. The bacilli in some cases are very limited in number and may easily escape detection. With regard to the modes of origin of intra ocular tuberculosis, Mr. Collins points out that there is much still to be debated. Several cases of exogenous infection of the conjunctiva with tubercle as the result of wounds have been recorded; there are cases reported of tuberculosis of the iris following perforated wounds; Greef has described a case of auto infection of the cornea, endogenous infection of the eye with tubercle in acute disseminated tuberculosis has been pointed out as occurring in the choroid by Cohnheim and less frequently in the iris; while there are cases in which tuberculosis appears in the eye without any previous sign of the disease in the body elsewhere. The origin of these cases is of considerable practical importance, as the treatment to be adopted may be largely influenced by the view taken as to the primary or secondary origin of the affection of the eye. Sex appears to have no predisposing influence and further evidence is required as to the frequency with which an injury precedes the condition before this can be accepted as a predisposing cause. The frequency with which intra-ocular tubercle occurs, with or without other clinical manifestations of tuberculosis, is not yet determined. Diagnosis is often very difficult, nor is it decided exactly what lesions of the choroid are to be regarded as tuberculous, but although most writers speak of intra ocular tuberculosis as a very rare disease there can be no doubt that the modern tendency is to recognise a much larger number of affections of the eye as falling within this category. The treatment is remedial or operative. Mr. Collins considered that in the light of the recent researches of Professor A. E. Wright on the opsonic power of the blood further investigation is required into the subject of the treatment of intra-ocular tubercle with tuberculin. As regards operative treatment the indications are not very simple. If the intra-ocular condition is primary enucleation would seem a reasonable course, but occasionally the tuberculous infection which previously had been confined to the eye, appears to become disseminated by operation. Again, it is not easy to say if the intra-ocular manifestation is primary, and if other infection is present it would manifestly be wrong to remove the eye while useful vision was retained in it and there were no symptoms of sympathetic ophthalmia.

THE GENERAL ASSEMBLY OF THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

(FROM OUR SPECIAL COMMISSIONER.)

Lisbon, April 18th.

THE MORNING SITTING.

To the International Association of the Medical Press appertains the honour of having inaugurated the great hall of the new School of Medicine. The first meeting held and the first speeches pronounced in this magnificent building were those of the representatives of medical journals of different European and South American nations. Here on the dais ascended, on the morning of April 17th, Señor Abel d'Andrade, the General Director of Public Instruction and professor of law at the University of Coimbra, who came to represent the Portuguese Government. By his side sat Dr. Carlos M. Cortezo, President of the International Association of the Medical Press; Dr. R. Blondel, the general secretary; and Professor Miguel Bombarda, general secretary of the Fifteenth International Congress of Medicine. The other members of the association sat on a double row of chairs that had been placed facing the platform.

Professor BOMBARDA opened the proceedings by expressing his satisfaction in welcoming to Portugal the representatives of the medical press of so many different countries. He said that being himself a journalist he had every reason to be sincere in such good wishes. He hailed with delight the representatives of what he believed was the most powerful lever in human society. In this he felt that he had the support of the whole population of Portugal, and though they were a small people they had large hearts. In the work of organising the medical press he hoped that the members present would realise that in the past they had been too exclusively professional. It was now urgently necessary to go beyond such narrow limits. They represented, in the first instance, the interests of medical men but these would be best served by considering the interests of civilisation as a whole. Their professional interests were to be discussed in association with those of the community at large. Certainly the first duty of the medical practitioner was to treat the sick but there was a still higher cause to serve. The profession must go beyond narrow professional limits and study its part, its function, its general relationship with the collectivity by which it was surrounded, the social life and the needs of society. In saying these words the thought of his venerated master came upon him; he remembered Virchow who had created social medicine. It was when he went to Silesia to study the terrible epidemic of typhus fever that Virchow founded a medical journal to defend the interests of the poor and the abandoned, the victims of hunger fever. He saw the great misery that then prevailed and understood how little medicine was of use in the face of starvation. After 30 years, during which time the medical press of Portugal had devoted itself almost exclusively to purely technical professional matters, they were to-day taking up the traditions of Virchow and giving a larger part in their columns to social medicine.

Dr. CARLOS M. CORTEZO followed, recalling the history of the association, how the idea germinated at Rome and gave rise to the Congress held at Paris in 1900, the meeting of the conference at Monaco, and the final constitution of the International Association at Madrid. The first act of the newly created body was an act of courtesy. They had nominated him as its president. He was pleased to have one more opportunity of expressing his gratitude for this compliment paid to Spain in his person. He was the more gratified that as president he had the joy of being able, in the name of the medical press of the whole world, to thank the Portuguese press and the Portuguese medical profession for all that they had done, and so well done. He hoped that in the present gathering they would have opportunities of proving their disinterestedness.

Dr. R. BLONDEL, as general secretary, was called upon as the next speaker. He rose, however, protesting that he was a worker and not a speaker. He only desired to make a business statement. He wished to explain that they were not more numerous because this was not a congress but a statutory meeting of the association. At Paris in 1900 it was necessary to study the general question and to try to found a society, so a congress was held with its doors open to all comers. Even then no further progress was accomplished than that of nominating a committee to draw up statutes. These had to be discussed and adopted by the conference of Monaco so as to be submitted for final approbation at the Madrid Congress. Now that the association was founded, there was no further need of congresses to found it. At a general assembly such as the present all members of the association might attend; as a matter of fact, however, most of the branches or different nationalities had contented themselves in sending their delegates. This proved the trust and confidence reposed in these delegates. There were some important matters on the agenda, and notably the publication of journals for advertisement purposes and their gratuitous distribution. In conclusion, he had to thank Professor Bombarda for his courtesy. He came all the way to Berne from Lisbon to discuss how matters could be organised for the best advantage of the press; this, too, at a time when he was already fully occupied organising the forthcoming International Congress of Medicine. As to the future, the part which the International Association of the Medical Press could play was enormous; its potentialities, however, would be all the greater, the great purpose to which Professor Bombarda alluded would be the more readily fulfilled, if, at first, they moved forward with prudence and circumspection.

Councillor ABEL D'ANDRADE, the General Director of Public Instruction, then rose and explained that he spoke in the name of the Portuguese Government. The Government was glad to inspire itself by the perusal of the medical press. It was the mission of the Government to translate into decrees and laws what the medical profession had proved to be necessary for the welfare of the commu In its series of conferences and congresses the press, fourth voice in the State, had striven to preserve knowle to disperse ignorance, and to convey equally to the co of the poor as to the mansion of the rich the light she the advance of science. The press had the highest rôle had not only to follow the discoveries of science b explain the causes of disease and to suggest the remed merely of such sickness but of those evil social and econ cal conditions which were the cause of disease. He expr the hope that the press would give to the Government force necessary to attempt the needed reforms.

The meeting then adjourned without the usual of speeches from the representatives of the diff nationalities.

A group of prominent members of the International Association of the Medical Press. The seven in the back row, reading from left to right, are—Professor Cornil (Paris); Professor Posner (Berlin), Councillor Abel d'Andrade, Director General of Public Instruction (representing the Portuguese Government); Dr Carlos M Cortezo (Madrid), former President of the International Association of the Medical Press; Professor Miguel Bombarda, General Secretary of the Fifteenth International Congress of Medicine; Dr. R. Blondel (Paris), General Secretary of the International Association of the Medical Press and Paris Correspondent of THE LANCET; and Dr. Alfredo Luiz Lopez, Treasurer of the Fifteenth International Congress of Medicine. The ten in the front row, reading from left to right, are:—Dr. Antonio de Azevedo, Assistant Secretary of the Fifteenth International Congress of Medicine; Mr. Adolphe Smith, THE LANCET; Mr. H. W. Armit, *British Medical Journal*; Dr Déjace (Belgium), *Le Scalpel*; Professor Daniel de Mattos of the University of Coimbra; Professor J. J. da Silva Amado (Lisbon), Dr. Azevedo Neves, Assistant Secretary of the Fifteenth International Congress of Medicine; Dr. Guevedo (Mexico) Editor of the *Escola de Medicina*; Dr. Bettenecourt Ferreira (Lisbon), *Journal of the Society of the Medical Sciences*; and Dr. Fisaç (Spain), *El Siglo Medico.*

THE AFTERNOON SITTING.

It was not before the afternoon meeting held on April that the real work began. Dr. CARLOS M. COR on taking the chair, at once called upon the general secretary, Dr. BLONDEL, to read the minutes of the last meeting of the International Committee. This, it will be remembered, was held at Berne on April 27th and 28th of last year. These minutes having been approved, proofs of the annual report were submitted and it was explained that each member of the association would receive a copy from his national secretary who would also have a few spare copies to be sold for one franc to anyone desiring the same. Dr. Blondel concluded by proposing that, as the Association of the Portuguese Medical Press now numbered 20 members, representing eight medical periodical publications, they should be entitled to two instead of one representative on the International Committee. This suggestion was readily accepted. Dr. Blondel then said that the first business was the election of the officers of the association and some conversation arose as to the unsatisfactory condition of affairs in regard to the assistant secretary and treasurer who had failed to apply to the affiliated associations for their subscriptions and was not in attendance on the present occasion. Explanations were given as to the heavy family bereavements and the precarious state of health of the treasurer.

Mr. ADOLPHE SMITH rose and argued that before the elections it was indispensable to come to a decision as to the proposal which it was his duty to make on behalf of the Association of the British Medical Press. It was their opinion that the present arrangement was not satisfactory and that it was desirable to modify the last clause of Article V., Chapter II., of the statutes of the International Association of the Medical Press adopted by the Conference of Monaco. Therefore he now proposed to abrogate completely the last paragraph of Article V. worded as follows:—

> The headquarters of the association is fixed at Brussels The assistant secretary and treasurer is alone obliged to reside in Belgium.

In the choice of their officers they must select those who were best able to render efficient service and this they might not be able to do if their choice was limited to one nationality.

Dr. DÉJACE (Belgium) did not oppose this proposal but he deeply deplored the fact that it had been thought necessary to make it. Formerly Belgium had been selected because it was neutral ground and geographically the most convenient place to meet.

Dr. BLONDEL pointed out that in practice half the proposal had been carried out. The last meeting of the committee was held at Berne and not at Brussels, this having been found more convenient.

Professor POSNER said that the British proposal amounted to legalising what in practice they had already been doing. There was no idea whatsoever of criticising the Belgians but they must be practical and win back their freedom of action. Rules were not eternal and should only be maintained so long as they proved useful, therefore the Germans and Austrians agreed to the proposal

Professor CORNIL supported Professor Posner and thought that the treasurership should be transferred to one of the nations that had rendered the most service—France, Germany, or Great Britain.

The motion abolishing the last paragraph of Article V. quoted above was then carried unanimously.

Mr. SMITH thereupon rose again and said that now that the motion had been carried he was most anxious to express his high appreciation of their close neighbours the Belgians and of the many eminent services which they had rendered to the advancement of science and progress. Doubtless in Belgium very competent treasurers could be found, notably Dr. Déjace himself, but they felt that they could scarcely ask another Belgian to accept the post in the circumstances, and therefore the difficulties would be easiest overcome by looking for help in this respect to some other nation.

These remarks were well received as all present were most anxious not in any way to hurt the feelings of their Belgian colleagues. Dr. DEJACE then rose and expressed his gratitude for the expressions of sympathy and friendship that had been uttered and the incident ended harmoniously.

The committee then proceeded to select its president. Professor Posner was elected by acclamation; nevertheless, and so as to avoid establishing a precedent which might prove awkward on other occasions when less unanimity might prevail, the committee proceeded to vote again and by secret ballot with precisely the same result. Professor Bombarda (Portugal), Dr. Déjace (Belgium), and Dr. Ascoli (Italy) were elected vice-presidents; Dr. R. Blondel (France), of course, was enthusiastically reappointed general secretary; and Dr. Dawson Williams (Great Britain) was elected as treasurer.

The next question was where the committee should meet in 1907. The British representatives invited the committee to meet in London just before the Second International Congress on School Hygiene which will hold its session from August 5th to 10th, 1907, in that metropolis. This proposal was accepted. It was also decided that the head office of the International Association of the Medical Press should be at the Bureau des Renseignements of the Paris Sorbonne. This gave Mr. Smith an opportunity of complimenting Dr. Blondel on his admirable organisation of the bureau and the services which it had already rendered to students and travellers from all countries. If the same success attended the organisation of the association of the medical press great would be the work accomplished.

Dr. BLONDEL replied that such success did not depend on him but on the nations affiliated. For instance, the Italians were quarrelling among themselves and had founded two rival national associations of the Italian medical press, with the result that neither of these bodies had sent representatives to the present meeting.

This concluded the work of the International Committee and the doors were then opened to any members of the association with the result that several Portuguese, Spanish, Mexican, and Brazilian members came into the room where the Committee had been sitting. Dr. Mendoza and Dr. Lara had papers to submit but were not present. The question of those journals that professed to be medical journals but were issued by manufacturers and distributed gratuitously so as to serve as advertisements for their wares was taken up for discussion.

Dr. BLONDEL inquired whether it would be possible to refuse the insertion in genuine medical journals of advertisements that appeared in these gratuitous prints.

Professor CORNIL remarked that these papers reproduced articles from legitimate papers. If they were promptly prosecuted for so doing such action would wreck such scissors-and-paste journalism.

Dr. DÉJACE maintained that if reproduction was theoretically forbidden, in practice the tribunals did not enforce the law. In any case the Berne Convention only protected the literary form, whereas in science it was the fact that had the chief value and the description of a new fact or theory could be reproduced anywhere if a somewhat different phraseology was employed.

Mr. H. W. ARMIT said that the Americans were the chief sinners so far as the English language was concerned and against them there was no possibility of legal action.

A motion was proposed by Professor CORNIL, seconded by Dr. BLONDEL, as follows:—

> As a commencement of the struggle against the invasion of gratuitous journalism the general assembly of the International Association of the Medical Press recommends that each journal belonging to the association should inscribe, on its first page, an announcement that the reproduction of the articles contained in the issue is forbidden to all medical journals that do not belong to the International Association of the Medical Press.

This was adopted.

The next question was termed "internal publicity"—namely, the growing demands made by advertisers for favourable notices in the body of the paper. The advertisers complain that their usual advertisements are torn out when the journals are bound up in a volume. Others say such notices deceive no one and are obviously advertisements. But now, Dr. Blondel urged, there was an ever-increasing demand for articles written in such a manner that they would deceive. Scientific books were sent with the request that they should be reviewed and if this was not done the advertisements were withdrawn. Some check must be put on these growing exigencies.

Professor POSNER urged the difficulty of drawing the line between genuine scientific articles and equally scientific articles that might be construed as advertisements. The more important papers refused to analyse over and over again the same products. But some of the manufacturers had laboratories and highly scientific men in their employ where work was done which was quite equal to that of a university or a faculty. So the matter would always remain a question of the value of the individual author and of the article. There was, he feared, no other solution than that which depended on the competence of the editor. It was above all necessary to prevent the editor from being influenced by the publisher.

After a considerable amount of conversation on this subject it was ultimately decided that a report should be prepared for the next meeting and the assembly then adjourned till the morrow.

(To be continued.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8332 births and 5250 deaths were registered in the week ending April 21st. The annual rate of mortality in these towns, which had been equal to 17·0 and 17·1 per 1000 in the two preceding weeks, further rose last week to 17 3. In London the rate was 19·2 per 1000, whereas the mean rate in the 75 other large towns did not exceed 16 5. The lowest death-rates in these towns during the week were 6 9 in Bournemouth, 7·8 in Wolverhampton, 9·3 in Southampton, and 9·6 in Tottenham; the rates in the other towns ranged upwards to 23·1 in Tynemouth, 23·2 in Coventry, 23·4 in Middlesbrough, 23·6 in Liverpool, and 25 9 in Bromley. The 5250 deaths in the 76 towns included 519 which were referred to the principal infectious diseases, against 457 and 518 in the two preceding weeks; of these, 214 resulted from measles, 133 from whooping-cough, 58 from diphtheria, 48 from diarrhœa, 47 from scarlet fever, 18 from "fever" (principally enteric), and one from small-pox. The deaths from these diseases were equal to an annual rate of 1·7 per 1000 in the 76 towns and to 1·9 in London. No death from any of these infectious diseases was registered last week in Hastings, Brighton, Bournemouth, Southampton, Reading, or in eight other large towns; while they caused the highest death-rates in Bradford, Bristol, Preston, Liverpool, Walthamstow, and Burnley. The highest death-rates from measles during the week occurred in Liverpool, Preston, Walthamstow, and Burnley; from whooping-cough in Bristol, Aston Manor, Merthyr Tydfil, West Bromwich, Burnley, and Coventry; from diphtheria in Walthamstow and Halifax; and from diarrhœa in Warrington. The highest death rates from scarlet fever occurred in Middlesbrough and Sheffield. "Fever" showed no marked fatality in any of the large towns, and one fatal case of small-pox occurred in Plymouth. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals were still seven at the end of last week, one new case having been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, April 21st, was 2225, showing a further decline from numbers decreasing steadily from 2628 to 2301 in the six preceding weeks; 288 new cases were, however, admitted during the week under notice, against 270 in the previous week. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had been 332 and 357 in the two preceding weeks, further rose last week to 399 and exceeded by 104 the corrected average for the corresponding week in the four preceding years, 1902–05. The causes of 51, or rather less than 1 per cent, of the deaths registered during the week in the 76 large towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Bradford, Hull, Newcastle-upon-Tyne, and in 48 other large towns; whereas the proportion of uncertified deaths showed a considerable excess in Birmingham, Coventry, Liverpool, Sheffield, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19 4 and 19·1 in the two preceding weeks, further declined to 17·6 during the week ending April 21st, but exceeded by 0·3 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·6 and 13·1 in Perth and Aberdeen to 18·5 in Glasgow, 19·6 in Dundee, and 20·6 in Greenock. The 634 deaths in these eight towns included 15 which were referred to measles, 14 to whooping-cough, 12 to diarrhœa, seven to diphtheria, four to "fever," one to scarlet fever, but not one to small-pox. In all, 53 deaths resulted from these principal infectious diseases during the week, against 51 and 64 in the two preceding weeks. These 53 deaths were equal to an annual rate of 1·5 per 1000, which was 0·2 below the mean rate during the week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 27, 20, and 23 in the three preceding weeks, declined last week to 15, of which eight occurred in Glasgow, three in Edinburgh, and two in Dundee. Of the 14 deaths from whooping-cough, which exceeded by two the number returned in each of the two previous weeks, ten were recorded in Glasgow. The deaths referred to diarrhœa, which had been 15 and 11 in the two previous weeks, were 12 last week, and included five in Glasgow and three in Edinburgh. Four of the seven fatal cases of diphtheria occurred in Glasgow, as did three of the four deaths referred to fever, which included two attributed to cerebro-spinal fever. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 142 and 170 in the two previous weeks, declined last week to 140, but exceeded by 14 the number referred to these diseases in the corresponding week of last year. The causes of 13, or rather more than 2 per cent., of the deaths registered in the eight towns during the week were not certified, the proportion of uncertified deaths in the 76 English towns being less than 1 per cent.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·1, 21·1, and 23 4 per 1000 in the three preceding weeks, further rose to 28·1 during the week ending April 21st. During the 13 weeks of last quarter the death-rate in the city averaged 22·9 per 1000, against 16 6 and 17 4 in London and Edinburgh; and during the first three weeks of the current quarter the Dublin death-rate has further increased of 24·2. The 204 deaths of persons belonging to Dublin registered during the week under notice showed an increase of 26 upon the number returned in the previous week, and included six which were referred to the principal infectious diseases, against four and six in the two preceding weeks; of these, three resulted from measles, two from "fever," one from diarrhœa, and not one either from small-pox, scarlet fever, diphtheria, or whooping-cough. These six deaths from the principal infectious diseases were equal to an annual rate of but 0·8 per 1000, while the rate last week from the same diseases were equal to 1·9 in London and 1·4 in Edinburgh. The three fatal cases of measles showed an increase upon the numbers in recent weeks, as did the two deaths referred to "fever," probably enteric. The 204 deaths included 25 of infants under one year of age and 78 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a marked increase upon the numbers in the two previous weeks. Nine inquest cases and four deaths from violence were registered; and 87, or 43 per cent, of the 204 deaths were recorded in public institutions. The causes of six, or 3 per cent., of the deaths registered during the week were not certified, either by a registered medical practitioner or by a coroner.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: E. Sutton to the *St. George*, on recommissioning, and E. S. Tuck to the *President*, for three months' course at Guy's Hospital. Surgeons: F. L. de Verteuil to the *Hogue*, on completing; N. H. Mummery to the *Latona*; J. Verdon to the *Hyacinth* and M. T. Male to the *Russell*, both on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Lieutenant Percy Farrant, from the Seconded List, to be Lieutenant (dated April 1st, 1906).

The following have been appointed medical officers, London Recruiting Area: Lieutenant-Colonel H. Scott, retired pay, and Lieutenant-Colonel R. H. Hall. Captain A. C. Lupton, from Newcastle-on-Tyne, has been appointed to the 1st Life Guards. Lieutenant L. Bousfield has been selected for employment with the Egyptian Army.

THE ROYAL ARMY MEDICAL (MILITIA) CORPS.

The Army Council has decided that it is necessary to encourage the non-commissioned officers and men of the Royal Army Medical (Militia) Corps to qualify as cooks, both for hospital and general purposes, and has directed that a sufficient number shall be trained at selected military hospitals to maintain an establishment of two cooks per company, the period of instruction being three months.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Northumberland Fusiliers: Surgeon-Major J. P. Elliot is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated April 11th, 1906); Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel J. P. Elliot resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated April 11th, 1906). 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry: Surgeon-Major A Macphee to be Surgeon-Lieutenant Colonel (dated April 11th, 1906).

THE KING'S BIRTHDAY.

Notice is given in the *London Gazette* that the King's Birthday will be celebrated in London and at all Home Stations on Friday, June 29th next. At all other stations His Majesty's Birthday will be celebrated on Friday, Nov. 9th next.

PATRIOTISM AT THE UNIVERSITIES

In the April number of the *University Review* Sir William Ramsay has written an article entitled "Patriotism at the Universities." It is an earnest plea for a scheme whereby men while at the university should be able to undertake to fit themselves for service in defence of their country. He reminds his readers that in Germany those who have passed the "Abiturientenexamen" of the high schools (gymnasia or oberrealschulen), which is equivalent to matriculation at our universities, are allowed not only to limit their time of service to one year but it is made easy for them to serve during one of their years of study. Their hours of compulsory drill are made to fit their hours of study. And further, he asks, "Could we not form the habit of devoting one of our university years to shooting and drill?" We see that the editor of the *University Review* invites discussion upon this important suggestion and we await the result of the discussion with interest. For nearly 900 years no foreign invader has set foot on English soil and possibly we have become lulled into a false security. It may be true that the British people will never agree to universal military service but surely it is not too much to ask that every able bodied man should, say between the ages of 18 and 25 years, give up one year of his time to learning to shoot straight and to perform simple military evolutions. One of the greatest strategists of the last century said that it was perfectly easy to get an army into England but almost impossible to get it out again If Sir William Ramsay's scheme were adopted other classes than those who go to the universities would probably follow suit and in that case an invader would probably never penetrate far into the country even if he succeeded in landing

THE ROYAL NAVAL HOSPITAL, STONEHOUSE, PLYMOUTH.

Lord Tweedmouth and the other Lords of the Admiralty made a visit of inspection to the Royal Naval Hospital, Stonehouse, on April 10th. They were received by Inspector-General J. C. B Maclean, Deputy-Inspector-General L. H. Kellett, and Deputy-Inspector General C. James. Fleet-Surgeon W. Eames, Staff Surgeon M. L B Rodd, and several other officers were also present. Lord Tweedmouth visited the medical and surgical wards. The sick officers' quarters were seen and also the improved blocks of buildings, which have been practically rebuilt, with their annexes and sanitary arrangements. Lord Tweedmouth, who remained a considerable time in the hospital, was much pleased with his inspection

ROYAL ARMY MEDICAL CORPS FUND

The *Army and Navy Gazette* states that the fourth general meeting of subscribers to the Royal Army Medical Corps Fund will be held in the theatre of the Royal United Service Institution on Monday, June 18th, at 3 P.M. The Director-General will preside. It is hoped that officers will freely express their views on any points connected with the fund which they may wish discussed. Those officers who wish for information on any special point are asked to communicate with the honorary secretary, Lieutenant-Colonel B. M. Skinner, at 63, Victoria street, London, S W., in order that facts and figures may be furnished in response to any question asked.

THE TEETH OF ARMY RECRUITS.

In future the teeth of army recruits will be tested not from the standpoint of a campaign like that in South Africa but from the general average conditions of European warfare.

SPANISH MILITARY HYGIENE.

Dr. E. Alonso G. Sierra, a Spanish military surgeon, writing in the *Revista de Sanidad Militar*, deplores the great want of cleanliness in the army. The soldiers scarcely ever take a bath or brush their teeth, and are not accustomed to wash their hands before their meals, added to which there is a most deplorable want of cubic space in the barrack-rooms. Were these matters rectified and a more liberal supply of easily assimilable proteids allowed in their rations he thinks that the present high mortality would be decreased by something like 95 per cent.

Correspondence.

"Audi alteram partem."

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY?

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 14th, p. 1071, Mr. B. G. A. Moynihan maintains that I replied to, but did not answer, the arguments and criticisms in his former letter. This is a matter of opinion which I leave to the judgment of your readers. With your permission I will endeavour to reply to the arguments which Mr. Moynihan now puts forward. In his first paragraph Mr. Moynihan evades my point that the no loop operation has not been practised long enough to warrant a definite decision as to its value. He next remarks that "the operation of gastro-jejunostomy, if one may judge from published reports, is not so frequently performed in London as elsewhere." *Possibly* we are behind the times, although I think that published reports are not a trustworthy indication of the volume of work done, inasmuch as surgeons in London, whether from pressure of work or from disinclination, are very sparing as to the reports of cases which they publish. The great bulk of the cases are buried in the oblivion of hospital notes. Mr. Moynihan tells me that if I will look further afield I shall discover that the posterior operation with no loop is really the operation usually performed. I can only say that a careful search through the literature of the subject leads me to an opposite conclusion. In preparing my lectures I communicated with surgeons all over the country and I gathered from my inquiries that the no-loop operation is not commonly employed.

As regards Dr. Mumford's case, it is quite true that it was an instance of an anomaly of the duodenum, in that the fixed portion of the duodenum ended on the right side of the spinal column instead of on the left. This, however, I submit, does not affect the conclusion to be drawn from the record. The case is, as Mr. Moynihan admits, an argument against the no-loop operation. It illustrates the danger of fixing the jejunum to the stomach without the play afforded by a loop As Dr. Mumford remarks, "The play allowed to the movable stomach and jejunum was limited by the short radius—the ligament of Treitz to the anastomotic opening—afforded by the three-inch limb of jejunum." In other words, the no-loop operation is mechanically incorrect. Mr. Moynihan maintains that the condition found would have vitiated an anterior probably as much as a posterior operation. Even that fertility of imagination with which Mr. Moynihan kindly credits me does not enable me to conceive how, with the play afforded by the 12-inch loop of an anterior operation, the colon could be constricted, especially as in this particular case the stomach appears to have contracted in a lateral rather than in a vertical direction.

I am surprised to learn that Mr. Moynihan has adopted the method of stitching for two and a half years, for I find from his published records that one of his cases of gastro-jejunostomy performed in December, 1903, was operated on subsequently for an internal hernia through the aperture in the mesocolon. As gastro-jejunostomy in this case was performed less than two and a half years ago, I suppose that Mr. Moynihan must have stitched the jejunum to the mesocolon, and yet a hernia followed. I have no doubt that the method advocated by Mr. Moynihan is effectual so far as the immediate prevention of hernia is concerned, but I think we require further evidence that in every case the opening remains permanently closed. All surgeons are familiar with the readiness with which intestinal and omental adhesions become stretched. Surely such an event is possible when a structure like the mesocolon is stitched to contractile viscera such as the stomach or jejunum?

As regards regurgitant vomiting Mr. Moynihan maintains that the proximal jejunal limb becomes waterlogged. Mr. Moynihan, I admit, did say this in his first letter but I was loath to do him the injustice of believing that he really meant that waterlogging was the primary factor. Is there a particle of evidence that a healthy piece of intestine can become waterlogged apart from mechanical obstruction or paralytic distension? The whole of the small intestine is a series of loops. Do these loops ever become waterlogged apart from the conditions mentioned? I have witnessed a considerable number of necropsies on patients who have died from regurgitant vomiting and in every instance the waterlogging was clearly secondary to definite mechanical obstruction at the efferent opening. This is an observed fact; the hypothesis that waterlogging occurs as a primary condition is an ingenious speculation.

As regards peptic jejunal ulcer, I think my original contention is a perfectly fair one. I collected 19 instances, in 14 of which the anterior operation was performed, in two the posterior, in one Roux's operation, while in two the method was not stated. In the statistics given by Mr. Moynihan the disproportion is not so great, 17 instances following the anterior and six the posterior operation. I omit the cases in which an entero-anastomosis was performed, as I think it must be conceded that when this procedure is carried out peptic ulcer is more likely to occur, for the jejunal mucous membrane is exposed to the acid gastric juice unprotected by the presence of bile. In all the cases I collected gastro-jejunostomy had been performed prior to 1903. As jejunal ulcer is a comparatively remote sequel of gastro-jejunostomy, probably in all the cases yet recorded the operation had been performed not later than 1904. The point, therefore, is not whether the posterior operation is performed more frequently than the anterior at the present time (as I have no doubt it is), but whether such was the case during the period covered by the operations followed by peptic jejunal ulcer. I maintain that, so far as can be ascertained, during that period the anterior operation was more frequently performed and this circumstance is a reasonable explanation of the greater number of peptic jejunal ulcers which have followed the anterior operation. As regards the influence of a low opening on the production of jejunal ulcer I hardly think that the difference between the eight-inch loop of the posterior and the 12-inch loop of the anterior operation is a satisfactory explanation of the disproportion of cases which have followed the two methods. Mr. Moynihan disregards my contention that jejunal ulcer following the anterior appears to be a less serious complication than when it follows the posterior operation. Mr. Moynihan refers to the first gastro-jejunostomies which he ever saw, all done by the anterior method, and he tells us that of these cases there was one superb result, and a ghastly list of failures. In his first letter Mr. Moynihan referred to the complications which followed the posterior operation before the technique had been fully developed. Surely the technique of the anterior operation has been developed also, so that it is scarcely fair to instance the results of the earlier anterior operations as a criterion of what can be accomplished to-day. Mr. Moynihan asks, "Is there a surgeon in any part of the world who can bring forward any large number of cases of the anterior operation which will compare in results, immediate or remote, with those recorded by the Mayos, Mayo Robson, Hartmann, myself, or others?" Let me quote Dr. W. J. Mayo's (an advocate, be it said, of the posterior operation) statistics of anterior gastro jejunostomy. This surgeon and Dr. C. H. Mayo have recorded 421 cases of gastro-jejunostomy for benign and malignant disease. Of these cases 126 were anterior and 295 posterior. "The mortality," remarks Dr. Mayo, "in the anterior group was somewhat over 1 per cent. higher than in the posterior *but the percentage of secondary operations was greater after the posterior operation.* The mortality comparison is, however, hardly fair to the anterior method, as this group comprises a larger number of the earlier operations in which inexperience can be blamed for some of the misfortunes."

I trust that I do not turn a deaf ear to the evidence before me but I do believe that my senses enable me to distinguish between evidence and assertion, and I repeat that as yet I have not found any conclusive evidence to show that the results, either immediate or remote, are better after the posterior than after the anterior operation. If such evidence be forthcoming Mr. Moynihan need have no fear but that I shall act in accordance with it. Mr. Moynihan has obtained admirable results from the posterior operation. In my own smaller experience the results of the anterior operation have been excellent. I am confident that were Mr. Moynihan now to adopt the anterior method the results in his skilled hands would not be a whit inferior to those he has obtained from the posterior method in the past.

I am, Sirs, yours faithfully,
HERBERT J. PATERSON.

Upper Wimpole-street, W., April 23rd, 1906.

PS.—In THE LANCET of March 10th, p. 705, Dr. E. Cautley comments on some of the statements I made on the subject of infantile hypertrophic stenosis of the pylorus in my recent Hunterian lectures. Dr. Cautley points out that "statistical results of operations for this condition are of little value." With this remark I fully concur; indeed, in my lecture I expressed a similar view in the following words: "So much turns on the *condition of the infant* that it is impossible to estimate the relative mortality of these different procedures and it is probably on this factor and on the skill of the operator rather than on the particular operation adopted that the immediate result depends." Dr. Cautley thinks that I am inclined to give undue credence to reports of cases cured without recourse to operation. Doubtless some of the reported cures have been instances of mistaken diagnosis but I venture to think that the names of the physicians under whose care were the patients are sufficient evidence that the cases I quoted do not come under this category. Dr. Cautley is apprehensive lest my observations tend to make physicians procrastinate unduly. I trust no such evil result will ensue; such, at least, was not my intention. If, however, clinicians' diagnosis is as uncertain as Dr. Cautley suggests, procrastination may be in the interest of the patients, otherwise I fear that Dr. Cautley's insistence on early surgical treatment may lead to unnecessary operations on patients erroneously *supposed* to be suffering from this disease.

IN PRAISE OF RUM AND MILK.

To the Editors of THE LANCET.

SIRS,—I am pleased to see that Dr. Francis T. Bond, in THE LANCET of April 21st, p. 1135, draws attention to the great value of this combination as what one might term a food tonic, and I am particularly pleased to see that he uses the term Jamaica rum, for between Jamaica rum and the rum which is too frequently sold (Demerara rum) there is a very wide difference indeed. I had occasion some two years ago to investigate this question of the difference in quality between Jamaica and Demerara rum, and also to investigate the therapeutic action of good rum itself. I found that Demerara rum contained a little over 60 parts of combined ethers per 100,000 parts of absolute alcohol, whereas Jamaica rum contained anything from 300 to 600 parts of compound ethers in the same amount of absolute alcohol.

I went to considerable trouble to look up old authorities on the question of the therapeutics of rum and I was somewhat astonished to find them speaking so highly of this particular spirit. It was stated by one of these authorities that rum had a more decided action than either brandy, whisky, or gin in increasing the amount of carbonic acid given off from the system. It was further stated that rum was the only alcoholic liquor which produced perspiration, and, finally, the important statement was made that rum was one of the very best alcoholic restoratives, its action being not a mere flash-in-the-pan but of a steady and conservative character. Dr. Edward Smith, Dr. James Inman, Dr. Letheby, and Dr. Ringer all agreed upon this point. The first named stated that "the old-fashioned combination of rum and milk is the most powerful restorative with which he is acquainted." Dr. James Inman stated that "for internal use in cases of phthisis and similar diseases rum and milk is far better as a means of supplying fat to the body than cod liver oil." I have tested the remedy myself in a number of cases and I can personally vouch for the truth of the matter but I repeat the greatest care should be taken to obtain Jamaica rum and not Demerara rum.—I am, Sirs, yours faithfully,

MEREDITH YOUNG, M.D. Edin.

Stockport, April 23rd, 1906.

THE ARMY MEDICAL RESERVE.

To the Editors of THE LANCET.

SIRS,—The important question of first finding the necessary material to form such a corps is clearly put by your correspondent, "War Dog," in THE LANCET of April 21st, p. 1136. There are many who, I think, will agree with me that too much is made of military training in medical matters. Surgery and medicine are essentially the same, whether practised in the navy, army, or civil life, with the exception that in the latter a wider field is essential. The skeleton of a certain necessary administration is fully provided by the Royal Army Medical Corps. The civil surgeon, on the whole, is generally admitted to have proved a complete success. Any friction which did take place, in the future will probably disappear under the vastly improving conditions of the *personnel* of the standing corps. Should another war take place there must of necessity be a further call upon the profession with the result of an equally satisfactory response. The idea of specially training a body of such men surely is unnecessary. As to a reserve of men like myself, who have seen service under all conditions at the front and in hospitals, most of us are now settled in some way or other, and I think I may say that we are not looking for further trouble unless the country cannot do without us. Carry a large water-bottle and a packet or so of common cigarettes: these are the first requirements of a wounded soldier. I have always found the officers of the Royal Army Medical Corps willing and anxious to give at short notice any special instruction which might be required. I am, Sirs, yours faithfully,

J. L. AYMARD,
Late Civil Surgeon, 7th Dragoon Guards.

Wimpole-street, W., April 21st, 1906.

To the Editors of THE LANCET.

SIRS,—The idea of enrolling into a medical reserve the larger number of civil surgeons who were attached to the army during the late war is a scheme which one would have thought should have suggested itself to the authorities long ago; moreover, the confidential reports possessed would have enabled a pick to be made of the many they have to choose from, to say nothing of the advantages of practical experience possessed by these men gained in actual warfare, an experience which no training could ever give to the new men. That such a scheme has presented itself to the authorities may be taken for granted and it may be of interest to ask why it has not been adopted. It will doubtless be fresh in our memories the snub which the War Office received during the course of the war to its offers of commissions in the Royal Army Medical Corps offered to the civil surgeons; it is not likely they would care to receive a second. Again, if the authorities as it seems fear a refusal to enrol from experienced men one is naturally lead to ask if the reason for such refusal is probably due to a "knowledge of good and evil" which is possessed by the civil surgeons of the real state of matters in the Royal Army Medical Corps. Hence the reason for asking young men to enlist in a reserve of a service they have no experience of the shortcomings of. A civil surgeon who has once served knows that if he joined he would be entering a service possessed of many attractions of a social and gay life, but would invariably recognise that during his term of service he would lose ground in things medical and surgical. His time of training would be spent learning military routine, administrative duties, and compiling red tape returns, but that he would gain anything in medical or surgical work he knows would be almost impossible. If, on the other hand, all administrative work—returns of sick, payment of men, checking of hospital supplies, balancing of accounts, and the other multitudinous duties which at present fill in the greater part of medical officers' time—were carried out by military officers who have passed into the reserve or have been enrolled specially, as is the case in the army pay department, the civil surgeon would then feel more inclined to join a service in which he could conscientiously bring to bear with value and interest the experience which his practice has taught him. Until some scheme is adopted by the Royal Army Medical Corps of removing clerical duties to lay shoulders so long will the corps fail to fulfil its full duties to itself and to the nation.

I am, Sirs, yours faithfully,

THE AUTHOR OF THE "ARMY MEDICAL SYSTEM," &C.

April 21st, 1906.

CANCER GENESIS: TYROSIN AS A PROBABLE CAUSE OF LEUCOCYTOSIS IN CANCER.

To the Editors of THE LANCET.

SIRS,—I have noticed that under certain conditions it is possible to obtain what appears to be pure crystals of tyrosin from the juice of cancer cells and chemical experiments appear to support strongly the presence of tyrosin as Hoffmann's and Piria's reactions can be elicited. The importance of the presence of tyrosin in cancer becomes at once apparent when inquired into from the bio-physiological chemical standpoint of the initiation or cause of carcinoma and the subsequent course of the disease from a histological and clinical aspect. Tyrosin is paraoxyphenyl-α-amido-propionic acid and is the result of the prolonged action of pancreatic secretion on proteid matter. Tyrosin can be readily prepared from horn shavings by the action of sulphuric acid. Horn is an epithelial structure and the presence of tyrosin in epithelial cancer—particularly in epithelioma and mammary cancer—is not so extraordinary as it would seem. If tyrosin be decomposed we get various compounds, amongst which are paraoxyphenyl-propionic acid and β-phenyl-propionic acid. The former is hydroparacumaric acid and the latter is hydrocinnamic acid.

It is an accepted fact that the subcutaneous injection of either cumaric acid or cinnamic acid causes a well-marked leucocytosis.[1] During digestion, especially towards the end of the process in the small intestine, there is a marked leucocytosis normally taking place in the walls of the intestine and its villi. Is it not possible that the presence of tyrosin serves the purpose, amongst others, of calling up this leucocytosis, which is usually accepted as part of the method of fat absorption from the intestine, another of the results of pancreatic functions?

We here would appear to have a possible explanation of the non-inflammatory presence of leucocytes in the growing margin of a cancer and also a reason in support of my contention that the initiation of the cancer process is due to leucocytic action,[2] inasmuch as, owing perhaps to aging or faulty chemical action, epithelial cells may attract leucocytes by reason of the presence of accumulated tyrosin within or about the cells. Another most important matter bearing on the above is the fact that lately in all cases of cancer, wherever it may occur in the body, it has been stated that the mucous membrane of the stomach ceases to secrete hydrochloric acid and abundance of lactic acid is found to take its place. Now lactic acid is hydroxy-propionic acid and this fact at once points to an apparent connexion with tyrosin, which is a propionic derivative in combination with phenol, elsewhere in the body in cancer cases.

It would appear that one of two things is taking place: (1) that the stomach is trying to rid the system of the propionic radicle in an allotropic form; or (2) that the propionic radicle is being attached to a phenol radicle in the intestine and is being taken up in excess from the intestine and therefore appears in the tissues more or less free. The presence then of tyrosin in cancer tissue, especially in view of the alleged favourable action of trypsin on cancer, would appear quite compatible with the contention that the fundamental cause of cancer would probably be found to be some chemical disturbance in cell metabolism, directly or indirectly. Apart from the propionic-kresol compounds, there would appear to be also a chinolin compound allied to kynurenic acid present, as crystals which appear to be chinolinic in form have also been seen.

The above is a short *résumé* of the matter so far as I have worked at the subject at present, and further work on these lines aimed at increasing or diminishing tyrosin in cancer tissue ought to prove interesting and profitable in mesocolon, and yet a hernia followed. I have no doubt that the method advocated by Mr. Moynihan is effectual so far as the immediate prevention of hernia is concerned, but I think we require further evidence that in every case the opening remains permanently closed. All surgeons are familiar with the readiness with which intestinal and omental adhesions become stretched. Surely such an event is possible when a structure like the mesocolon is stitched to contractile viscera such as the stomach or jejunum?

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[1] Drage: Subcutaneous Injection of Cinnamate of Sodium, THE LANCET, July 12th, 1902, p. 66, and May 23rd, 1903, p. 1441.

[2] Forbes-Ross: Leucocytes in Cancer Genesis, Brit. Med. Jour., October, 1905.

As regards regurgitant vomiting Mr. Moynihan maintains that the proximal jejunal limb becomes waterlogged. Mr. Moynihan, I admit, did say this in his first letter but I was loath to do him the injustice of believing that he really meant that waterlogging was the primary factor. Is there a particle of evidence that a healthy piece of intestine can become waterlogged apart from mechanical obstruction or paralytic distension? The whole of the small intestine is a series of loops. Do these loops ever become waterlogged apart from the conditions mentioned? I have witnessed a considerable number of necropsies on patients who have died from regurgitant vomiting and in every instance the waterlogging was clearly secondary to definite mechanical obstruction at the efferent opening. This is an observed fact; the hypothesis that waterlogging occurs as a primary condition is an ingenious speculation.

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CANCER GENESIS: TYROSIN AS A PROBABLE CAUSE OF LEUCOCYTOSIS IN CANCER.

To the Editors of THE LANCET.

SIRS,—I have noticed that under certain conditions it is possible to obtain what appears to be pure crystals of tyrosin from the juice of cancer cells and chemical experiments appear to support strongly the presence of tyrosin as Hoffmann's and Piria's reactions can be elicited. The importance of the presence of tyrosin in cancer becomes at once apparent when inquired into from the bio-physiological chemical standpoint of the initiation or cause of carcinoma and the subsequent course of the disease from a histological and clinical aspect. Tyrosin is paraoxyphenyl-α-amido-propionic acid and is the result of the prolonged action of pancreatic secretion on proteid matter. Tyrosin can be readily prepared from horn shavings by the action of sulphuric acid. Horn is an epithelial structure and the presence of tyrosin in epithelial cancer—particularly in epithelioma and mammary cancer—is not so extraordinary as it would seem. If tyrosin be decomposed we get various compounds, amongst which are paraoxyphenyl-propionic acid and β-phenyl-propionic acid. The former is hydroparacumaric acid and the latter is hydrocinnamic acid.

It is an accepted fact that the subcutaneous injection of either cumaric acid or cinnamic acid causes a well-marked leucocytosis.[1] During digestion, especially towards the end of the process in the small intestine, there is a marked leucocytosis normally taking place in the walls of the intestine and its villi. Is it not possible that the presence of tyrosin serves the purpose, amongst others, of calling up this leucocytosis, which is usually accepted as part of the method of fat absorption from the intestine, another of the results of pancreatic functions?

We here would appear to have a possible explanation of the non-inflammatory presence of leucocytes in the growing margin of a cancer and also a reason in support of my contention that the initiation of the cancer process is due to leucocytic action,[2] inasmuch as, owing perhaps to aging or faulty chemical action, epithelial cells may attract leucocytes by reason of the presence of accumulated tyrosin within or about the cells. Another most important matter bearing on the above is the fact that lately in all cases of cancer, wherever it may occur in the body, it has been stated that the mucous membrane of the stomach ceases to secrete hydrochloric acid and abundance of lactic acid is *found to* take its place. Now lactic acid is hydroxy-propionic acid and this fact at once points to an apparent connexion with tyrosin, which is a propionic derivative in combination with phenol, elsewhere in the body in cancer cases.

It would appear that one of two things is taking place: (1) that the stomach is trying to rid the system of the propionic radicle in an allotropic form; or (2) that the propionic radicle is being attached to a phenol radicle in the intestine and is being taken up in excess from the intestine and therefore appears in the tissues more or less free. The presence then of tyrosin in cancer tissue, especially in view of the alleged favourable action of trypsin on cancer, would appear quite compatible with the contention that the fundamental cause of cancer would probably be found to be some chemical disturbance in cell metabolism, directly or indirectly. Apart from the propionic-kresol compounds, there would appear to be also a chinolin compound allied to kynurenic acid present, as crystals which appear to be chinolinic in form have also been seen.

The above is a short *résumé* of the matter so far as I have worked at the subject at present, and further work on these lines aimed at increasing or diminishing tyrosin in cancer tissue ought to prove interesting and profitable in view of the latest experiments in cancer treatment and pathology. I am, Sirs, yours faithfully,

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[1] Drage: Subcutaneous Injection of Cinnamate of Sodium, THE LANCET, July 12th, 1902, p. 66, and May 23rd, 1903, p. 1441.

[2] Forbes-Ross: Leucocytes in Cancer Genesis, Brit. Med. Jour., October, 1905.

F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

Harley-street, W., April 20th, 1906.

A LIFE OF "ECLIPSE."

To the Editors of THE LANCET.

SIRS,—May we ask the assistance of your valuable columns to let the fact be known that the first complete life of "Eclipse" is in course of preparation and that any reference to this celebrated horse in contemporary literature, to his breeder, the Duke of Cumberland, to his purchaser, Wildman, and to his subsequent owner, Dennis O'Kelly, will be very much appreciated. Many facts have already come to light from private and unexpected sources which have enabled us to settle various questions hitherto doubtful, such as the birthplace, the burial place, the authentic skeleton, and so forth. Many more letters, documents, prints, or paintings must still exist—besides those already brought to our notice by the generosity of their possessors—which will be of the greatest value. The monograph will be as completely illustrated as possible, from contemporary paintings and engravings and other sources, and will contain detailed photographs of the anatomy of Eclipse and the most famous of his descendants, which should prove interesting both to biologists and breeders. A sketch of racing in the days when Eclipse was on the turf will be included, with biographies of his breeder, owners, and others connected with the sport of that time. It is important that information should reach us before June 1st if possible and all letters, manuscripts, prints, or pictures, addressed to "Eclipse," care of Mr. W. Heinemann, 21, Bedford-street, London, W.C., will be acknowledged before that date and will be received not only with the greatest care but with profound gratitude. Any originals reproduced will be scrupulously guarded from injury and safely returned and may be insured if necessary while out of their owner's hands if a separate message to that effect is addressed to Mr. Heinemann.

With every confidence that our efforts to collect everything known about the most famous horse ever bred will meet with indulgent and sympathetic assistance of all Englishmen who have facts to contribute,

We are, Sirs, faithfully yours,

April 19th, 1906. THE AUTHORS.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

A Hospital Incident.

THE evidence given at an inquest held on April 23rd by the city coroner on a 12 months old child illustrates one of the modes by which reports likely to injure hospitals are sometimes originated. The child was scalded on Good Friday and after treating him herself the mother took him to the Ancoats Hospital, having no money for private medical advice. She stripped the boy at a nurse's request and was then told she would have to obtain a "recommend." This she did and took the child the next day again to the hospital. According to the woman's statement, she was then told that she wanted horsewhipping and that the case was out of the district, and added that she subsequently obtained some money but that the child died before the medical man had seen him. This does not read very pleasantly. However, the secretary of the hospital denied the statement as to horsewhipping and said the essence of the case was that the mother wanted the child treated at home but that it was out of the house-patient district. When he saw her he told her to wait while he consulted the medical officer as to the advisability of taking the child as an in-patient but she had gone when he returned and he could not communicate with her. The coroner said that so far as the woman was concerned the whole affair was an unfortunate misunderstanding. It does not appear that the child was seen at the hospital by anyone but a nurse, who, it may be, was not effusively sympathetic, if we may judge by the impression apparently left on the woman's mind that she had been told she deserved horsewhipping. Such women are often trying and nurses are often tired; but it seems a pity that no one told this woman at first where she ought to take the child. The jury agreed that no reflection could be cast on the hospital officials and that the death was "accidental." No hospital, not even one doing such good work in a poor district as is done by the Ancoats Hospital, can always avoid "incidents."

Dissatisfied Antivaccinationists.

The Northern Counties Union of Antivaccination Societies had its annual conference in Manchester on April 21st. It resolved that it felt profound surprise and disappointment at the unsympathetic attitude of the Government towards even the smallest demands of conscientious objectors to vaccination, as well as at various other enormities,—as, e.g., "the callous indifference of the Home Secretary, the Lord Chancellor, and the Cabinet generally to the flagrant manner in which many magistrates persistently bully and catechise applicants for exemption certificates and refuse to give them their statutory rights." The meeting further urged efforts to be made to relieve "public servants and parents who desire to keep themselves and their children healthy from the intolerable persecution they now suffer at the hands of medical men and other officials, whose legal but monstrous business it is to corrupt the blood of the people and to make health a crime." To the sober-minded medical man who has hitherto been unconscious that it is his "legal but monstrous business to corrupt the blood of the people," towards whom, indeed, he has a kindly, benevolent feeling, the words quoted seem to belong to the category now termed "wild and whirling." These people, obsessed with one idea and impervious to any other, cannot be reasoned with. Most of them are sincere, in the sense of being terribly in earnest, so much so indeed that they shut their eyes to, or pervert, facts without any hesitation. The misfortune is that they did not live, say, a century ago, when they would have had object lessons as to the ravages of small-pox that would have saved them from the mischievous folly which they are doing their best to perpetrate. It rarely happens that cranks are eccentric, shall we say, on one point only, and it would be interesting to learn in what other directions the antivaccinationists run counter to the knowledge and common-sense of mankind.

Medical Man charged with Murder.

It is happily a rare thing for a qualified medical man to be charged with a criminal offence. On April 23rd, however, Mr. C. J. Holtom, M.R.C.S. Eng., L.S.A., was committed for trial on the charge of murdering a young woman who died, it was said, after the performance of what the newspapers euphemistically call an "illegal operation." No comment can be made on the case while *sub judice*.

April 24th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Dangers in Connexion with Pit Heaps.

IN mining districts there is scarcely a village without its "pit heap," often an ugly eye-sore by day and less often the only luminous object in the black darkness of night. Only those heaps which are known to be "alive" are looked on as dangerous, familiarity having bred so great a contempt for all others that almost without exception they have become the playgrounds for the village children. But every now and then some untoward occurrence serves as a reminder that fire may linger long and be none the less likely to burn. Quite recently the whole north country was startled by the death of two old people at Pelton who were poisoned by the fumes from such a smouldering heap, while several residents in the same village were driven from their homes by the stifling dangerous fumes. Scarcely has this excitement abated before we are again reminded of the danger at our very doors by the death of a little child who was fatally burned through falling into a hole on the side of a burning heap. This accident happened at New Lambton in the county of Durham. The heap in question was supposed by the residents to be burnt out and perfectly safe, for they allowed their children to use it as a playground. When the accident happened the deceased, aged one year and nine months, and two other children, aged three and five years respectively, were playing together when the ground suddenly gave way, leaving a burning hole four feet in diameter, into which the youngest child fell. The child was so much burnt that death occurred two and a half hours after the accident. At the inquest the colliery manager stated that the heap was a deposit of shale about 300 yards square and that there was a very slow combustion going on but he had not known of any gases coming from it during his ten years' experience. There was a pleasant view from the heap and the men were in the habit of going there with their children, though they did so at their own risk. Some 12 years ago a thousand tons of sand were put on the heap with a view of rendering the combustion as low as possible, but this only hindered combustion and did not entirely extinguish it. The colliery company has decided to put a wire fence round the heap and to affix notice boards warning the public of the danger.

The Local Lessons of the French Mining Disaster.

The Northumberland miners have decided that the moral for them is the necessity for prevention. They have accordingly passed resolutions suggesting that "salvage corps and approved apparatus be established at every pit and that the Government be called upon to enforce the formation and efficiency of such corps." It is further suggested that in the workings of every pit there should be one or more refuges adequately provided with a store of tinned meats and other provisions, &c.

Heath Bequest for Newcastle Nurses.

The trustees of the Heath Bequest (under the will of the late George Yeoman Heath) with the approval of the Charity Commissioners have elaborated a scheme which will materially benefit the nurses of Newcastle. The income from this bequest amounts to almost £220 annually, which the trustees have decided to divide in the following manner. About one-half is to go to the training institutions and the other half to the nurses' homes. Prizes amounting to £52 10s., together with a silver medal, will be awarded annually to the nurses of the Royal Victoria Infirmary. Of this sum £15 in five prizes go to the probationers; £20 in four prizes and a silver medal to the nurses up for their final examination; and £17 10s. in three prizes to the sisters. The conditions of the sisters' examination are that one-fifth of the marks shall be allotted for the general administration and discipline of the wards, one-fifth for the capability and application shown by them in the instruction and training of the probationers under their special charge and the balance of the total marks will be allotted for a competitive examination in medical and surgical nursing, including invalid cookery. Prizes amounting to £10 will be awarded for a competitive examination among the nurses of each of the following institutions: the Children's Hospital, the Lying-in Hospital, the Infectious Diseases Hospital, and the Union Hospital. The trustees also propose to pay one-fourth of the premiums paid by nurses in the different nurses' homes in Newcastle and Gateshead to the Royal National Pension Fund for Nurses not exceeding a sum of £2 to any one nurse in one year.

The Fees of Colliery Surgeons in Northumberland.

In my note in THE LANCET of March 17th, p. 794, it was pointed out that the decision of the Northumberland Miners' Association not to abolish the doctors' fees committee required confirmation by the various lodges throughout the county. Contrary, perhaps, to expectation the lodges have now decided by a large majority that the doctors' fees committee is to be abolished, so that the whole question is now taken out of the hands of the Central Union and becomes a purely local one, the men now having the power to deal directly with their medical men. This means that the dispute is practically at an end, though dissatisfaction still lingers in one or two districts, notably Ashington and Walbottle. But those of the miners who try to introduce medical men at the lower rates of remuneration have not an easy task. The medical men who have accepted the positions have often been found wanting and one has recently appeared in the police court charged with wife desertion! They also complain that there is a tendency on the part of druggists to boycott the medical men who are willing to take the reduced fee. To get over their many difficulties one section of the miners advocates the abolition of the present system and suggests the formation of a "sinking fund"—that is to say, that every man should pay into one common fund, and when the aid of a medical practitioner is required that he should be called in and make his ordinary charge, payment to be made out of the common fund. In connexion with the whole question it is interesting to note that from returns sent in from 53 collieries in Northumberland I learn that the rate of remuneration is as follows: at 41 collieries the payment is 9*d.* per fortnight, at seven 8*d.*, at three 6*d.*, at one 1*s.*, and at another 1*s.* 6*d.*

April 2[illegible]th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Conveyance of Milk by Railways.

AT a meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health recently held at Cardiff Dr. E. Walford, the medical officer of health of Cardiff, brought forward a question of some importance in connexion with the conveyance of milk by railway companies. It appears that a milk dealer was recently fined by the Cardiff stipendiary magistrate in the sum of £20 as the result of the examination of a sample of milk taken at 3 A.M. from one of the dealer's churns at the railway station, the examination revealing only 2·52 per cent. of milk fat. The defence raised was that the churn when it left the farm on the previous evening contained 18 gallons and that one gallon consisting chiefly of cream which had risen to the top had been abstracted. No evidence in support of this ingenious defence was, however, forthcoming. Dr Walford dwelt upon the necessity for measures being taken to prevent the tampering with the contents of milk churns during transit. In order to ascertain the views of those engaged in the milk trade he had addressed to some of the largest dairy farmers in Somersetshire and Gloucestershire the following questions:—1. Do you consider that the present methods which are generally adopted by the railway companies for conveying milk in railway vans afford adequate protection from fraud of the milk? 2 Can you suggest any improvement in the methods adopted? 3. Do you approve of sealed or locked churns? 4. If not, what are your objections to such churns? 5. What form of churn do you consider most suitable? Two of the 12 farmers who replied to these inquiries were quite satisfied with the present methods. All the others complained that milk is frequently conveyed in guards' vans with all sorts of other goods such as fish and vegetables and sometimes even with dogs or calves. They were greatly in favour of special milk vans, properly ventilated and kept at a suitable temperature. They were nearly all in favour of locked churns. It is of interest to learn that nearly seven years ago the Railway Companies Association, in reply to an inquiry, informed the Board of Trade that "senders have for a long time been allowed to send milk in sealed cans, the companies accept the declaration of the senders as to the quantity conveyed, no extra charge being made, the only condition being that the tare weight of the cans shall be stamped upon the outside of the cans, so that in case of doubt the quantity of milk within the churn can be approximately ascertained by allowing 10¼ pounds for each gallon on milk declared." Dr. Walford emphasised the importance of keeping the milk under supervision from the time it leaves the cow until it reaches the milk depôt, fresh and clean unsterilised milk being in his opinion a more suitable food for infants than sterilised milk. Milk drawn from the udder with strict aseptic precautions, if not sterile, is at least, he maintained, comparatively free from bacteria, and if strained and cooled to 40° F. and kept at this temperature during transit the multiplication of bacteria is sufficiently arrested for all practical purposes. In the course of the discussion Dr. Francis T. Bond expressed the opinion that there would be little or no improvement in the methods of production and distribution of milk unless the milk consumers brought pressure to bear upon the purveyors who in their turn would have to compel the middleman and the dairy farmer to conform to the present-day ideals of cleanliness.

The Qualifications of Inspectors of Nuisances.

The Local Government Board has been recently making more detailed inquiries than was formerly the case into the qualifications for the duties of the office of newly appointed inspectors of nuisances. One of the latest instances is in connexion with the appointment of such an official for the rural district of Leominster in Herefordshire. The inspector who had been in office about 20 years having resigned, the district council advertised for a successor and more than 100 persons responded, although the salary offered was only £70 per annum, with no allowance towards the expenses entailed in getting about the district. Among those who applied for the post were several men who held a certificate of competency from the Royal Sanitary Institute or who were otherwise specially qualified. The district council did not elect one of these and upon applying to the Local Government Board to sanction the appointment of another candidate it received a communication from the Board asking for the special reasons which led the council to make this particular selection as the person chosen appeared to have no previous experience of the duties of the office of inspector of nuisances. In the course of its reply to the Board the district council stated that its nominee proposed to enter for an examination for inspectors of nuisances during the next few months, whereupon the Board intimated that for the present its sanction to the appointment would be withheld but would be given in the event of a proper certificate of proficiency being obtained within a year. The Board is to be congratulated upon the firm stand it has taken which is so entirely in the interests of the public health.

The Aberystwyth Board of Guardians and its Medical Officer.

The Aberystwyth guardians were informed at their meeting on April 16th that the assistance rendered by the infirmary house surgeon would be withdrawn at the end of April. Mr. W. Thomas, the ex-mayor, said that he was satisfied that they had done the right thing and he now proposed that a copy of the letter should be sent to the Local Government Board with an intimation that the guardians had no medical officer in view and threw the responsibility for the entire care of the sick inmates on to the shoulders of the Local Government Board. This was seconded by Mr. E. Morris and on being put to the vote was carried.

The Bridgwater Rural District Council and its Medical Officer of Health.

The Bridgwater rural district council recently decided to reduce the salary of its medical officer of health from £70 to £60 per annum. The Local Government Board, however, does not approve of this proceeding, and at a meeting of the rural council held on April 11th a letter was read from the Board advising the council to reconsider its decision and contending that the reasons for the proposed reduction were insufficient. It was proposed that the original salary should be paid and this was seconded, but eventually an amendment was carried by 8 votes to 5 to the effect that the Local Government Board should be informed that the council, after having fully considered the matter, is of opinion that it is fully justified in making the reduction.

April 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Motor Ambulance for Glasgow.

BY next month the St. Andrew's Ambulance Association will have on the road a new and specially equipped motor ambulance. This vehicle, it is expected, will extend the sphere of the society's usefulness in the Glasgow district and its work will be of interest far beyond the city, being one of the first of its kind in use in the United Kingdom. The motor ambulance when complete will have accommodation for two accident cases in ordinary circumstances but it is to be so constructed that it will accommodate more than double that number in an emergency. It will be lighted by electric light, and a red cross lamp will light its path at night and a glass transparency indicate during the day the mission which it fulfils. With the motor ambulance it will be possible to attend accidents on the fringe of the wide Glasgow district and to insure a much more speedy journey for the unfortunate injured to the various infirmaries.

The "Alice Mary Corbett" Memorial Nurses' Home.

This home, given by Mrs. Polson to the Glasgow Samaritan Hospital for Women in memory of her daughter, the late Mrs. Cameron Corbett, was opened recently and formally handed over to the governors of the hospital. This new addition to the hospital consists of three storeys and accommodation is provided for 28 nurses, each nurse having a separate apartment, while a suite of rooms is reserved for the matron. A large drawing-room for the nurses is situated on the ground floor. The building, which with the site has cost £10,000, has also been furnished at the donor's expense.

Relief of Incurables.

Under the management of the Glasgow and West of Scotland Association for the Relief of Incurables there are two homes—the Lanfine Home for patients suffering from pulmonary tuberculosis and not considered suitable cases for admission to a sanatorium, and the Broomhill Home, into whi patients suffering from other ailments are admitted. T medical officer's report for the past year shows that in t Broomhill Home at the end of December, 1904, there were 1 patients under treatment, as compared with 117 in 190 while in the Lanfine Home there were ten patients, against 13 at the end of 1905. One point which is ve satisfactory is that in the Lanfine Home, although intende for those cases not considered suitable for sanatoriums owi to the advanced stage of the disease, one patient was di missed as cured during the year, while five left the hon considerably benefited. The advantage of such a home f advanced cases of pulmonary tuberculosis is very evident bot to the patients themselves and also to those who as inmat of dwellings from which the patients have been remove are extremely liable to be infected with the disease. It to be noted with regret that for the year there is a deb balance of £1465 and on this account the directors will unable for the present to carry out any further extensio and thus during the next year there can be no mo admissions to the Broomhill Home except owing to the deat or removal of inmates.

Small-pox among Alien Emigrants.

In a report to the Glasgow town council Dr. A. K. Chalmer medical officer of health of Glasgow, draws attention some grave defects in the housing and inspection of alie emigrants detained in Glasgow for a longer or shorter perio while waiting for the steamer to convey them to Americ A case in point is that of a Russian Jew who was admitte to hospital on March 26th suffering from small-pox. H arrived from Russia *viâ* Rotterdam and Grangemout on March 22nd and with four others was accommodate in one of the hotels of the city. On the evening o admission he visited the shop of a fellow countryman who observing an eruption on his face, took him to another hote which is also used by emigrants and at once communicate with the medical officer of the shipping company concerned In this latter hotel the patient was detained in a room b himself but in the previous hotel he occupied two room in succession and had opportunities for mixing wit between 400 and 500 people who were accommodated i the hotel. The Aliens Act, 1905, holds the shippin companies responsible for the completion of transit o such persons as they have introduced into this country but while in Glasgow, as this case illustrates, infectio from a small-pox patient may reach a considerabl section of the resident population before its presence recognised. It would therefore seem desirable that so lon as this traffic continues these emigrants should be housed b themselves and regularly inspected so that the public ma have a reasonable degree of protection against importe disease. It is worthy of note also that there is no daily medical inspection of emigrants, although the interpreters employed are expected to intimate at once any case of sickness coming under their notice.

Commemoration Day at the University of Glasgow.

On April 18th the University of Glasgow was *en fête* to celebrate Commemoration Day. An elaborate programme was carried through, the most interesting item being an oration by Professor Henry Jones on Francis Hutcheson, who was professor of moral philosophy in the University from 1730 to 1746. At the conclusion of the address honorary degrees were conferred on several distinguished individuals.

April 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

A MEETING of Convocation of the Royal University of Ireland was held in the University Buildings on April 20th, Mr. Edward Cuming, M.A., barrister-at-law, presiding. After other business had been transacted Dr. J. C. McWalter, M.A., proposed a motion that lady graduates should be entitled ecome members of Convocation. The Rev. Mr. Leslie that he quite agreed with the motion and would support rovided that the Senate endeavoured to obtain powers to ntain order amongst the male graduates. He moved the owing amendment :—

> *ovided that the Senate* seeks such alteration in the Charter as will it sufficient power to maintain order and discipline in this versity.

Rev. Mr. Pillor seconded the amendment. The amendnt was not, however, pressed and the original motion carried. With reference to the disorders which had en place the *chairman* said that he regretted and connned as much as anyone the proceedings which took place the *conferring of degrees* in October last. He considered t they were offensive and objectionable but as a member the Senate for many years he was strongly of opinion that vas not for the benefit of harmony in the University or of iversity education that they should *hold a discussion on* s matter six months after it took place. He thought that very exaggerated importance had been given to the tter and to those who took part in it. Subsequently, . John Campbell of Belfast was elected a member of the nate in place of his honour Judge Shaw, K.C., resigned. e following was the result of the voting: Dr. J. Campbell, 8 votes; Dr. E. Magennis, 106; and Mr. Perry, C.E., 61. ere was one spoiled vote. Dr. Campbell is the President the Royal University Graduates' Association. His election ll strengthen the medical side in the Senate.

Tughan v. Darnell.

It was announced last week that the notice of appeal gainst the verdict in this celebrated case has been withawn, which leaves the result as a verdict for the plaintiff. he case, it will be recollected, was brought against a edical man for alleged negligence. At the first trial the ry *disagreed*, at the *second* they found for the defendant, d at the third for the plaintiff. Two special points of reat interest *to* the medical profession came up in this ial. The judge (the Lord Chief Baron Palles) decided at the ordinary custom or practice followed by the edical profession could not be regarded as evidence or of alue unless tested by the jury *in its bearing* upon the articular case at issue. The other question was the efinition of negligence. Previously judges had laid down he rule that negligence meant want of skill, but that in edical matters, owing to the nature of the *science*, the ame exactness could not be expected which would be emanded in the case of an engineer who is controlled by istinct limitations recognised by everyone. The Chief Baron, in the Darnell case, quoted a definition (he did not give the name of its author) of negligence which will, if it s now to be the accepted one, make medical practice very difficult. Negligence on the part of the medical man, he said, was want of consummate skill, care, and foresight. One can understand a medical man being expected to have care and skill. If this care and skill are to be "consummate" it is bad enough, but if in addition he is to show consummate foresight I am afraid legal actions against members of the medical profession will increase tenfold. Imagine lawyers being compelled to live up to such a test.

Mater Infirmorum Hospital, Belfast.

From the twenty-second annual report of this hospital it appears that during the past year there were 1525 interne patients, 3762 accidents, and 22,597 out-patient cases. 389 surgical operations were performed. The total number of patients who received treatment was 27,884, being an increase of 1517 as compared with the year 1904. The *most* notable increase is in the number of accident cases. The expenditure was for the past year £5152. The increase of expenditure over income during the past two years leaves a balance *due to the bank* of £257 19*s*. 9*d*. Additional funds are urgently required.

April 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Consolidation after Dental Grafts.

THE mechanism of consolidation after dental grafts has been studied experimentally by M. Mendel who recently read a paper on the subject before the Anatomical Society. Microscopic sections show that if an extracted tooth be immediately replaced the alveolo dental membrane takes on all the work of consolidation and it is impossible to distinguish between the sections of a re-implanted tooth and of a normal tooth. If, however, the grafted tooth be dry—i.e., not freshly extracted—an ossifying process is brought about, callus develops, and the alveolo-dental membrane plays no part.

Drug Eruptions.

At a meeting of the Hospitals Medical Society *held* on March 23rd M. Gaucher, M. Boisseau, and M. Desmoulières communicated a paper dealing with a case of drug eruption alternating with bronchitis in a patient suffering from cystinuria. He was 40 years of age and there was nothing in his history to show that he would be specially susceptible to drugs. Up to the age of 26 years he had taken no medicine except an *occasional* purgative. About that date, however, he was attacked with abdominal pain and he took three drops of cherry laurel water, equal to seven-tenths of a milligramme of hydrocyanic acid. Twelve hours later he was attacked with a vesicular eruption which spread rapidly all over his trunk and the upper part of the thighs. This rash lasted for some 15 days. On Feb. 8th of this year he suffered from bronchitis and he took one dose of a mixture containing sulphate of sparteine, syrup of narceine, belladonna, and cherry laurel water. During the same night he was attacked with an urticarial eruption which was extremely irritable. On the following day desquamation commenced, which rapidly became generalised and which lasted for four days. While the rash and desquamation lasted he had no cough or any sign of bronchitis. On Feb. 14th the cough returned, so he took another dose of the same mixture with the exception that the cherry laurel water was omitted and chloral was substituted. A few hours later an eruption similar to the last appeared and disappeared at the end of five days. The cough was again arrested and did not return until 10 days later. On March 8th he took a dose of a mixture containing belladonna, narceine, thebaine, and codeine. An eruption followed similiar to the two former and the cough ceased. On March 12th the patient entered the hospital. He had no signs of disease except a generalised desquamation. Two days after the desquamation had *ceased and* the cough reappeared but was not so violent as formerly. Apparently the eruptions were *produced by the cherry* laurel water and the belladonna, although it is possible that the opium alkaloids *were in fault*. The *urinary* sediment examined under the microscope showed numerous crystals *of cystine and analysis* showed a marked diminution in the oxidation products of sulphur and nitrogen, but there were present various allied *sulphonic derivatives* such as characterise abnormal intestinal fermentations.

Cerebral Tumour; Removal; Recovery.

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April 23rd

MR. WILLIAM HENRY WATERFIELD, L.R.C.P., L.R.C.S. Irel., has been re-elected vice chairman of the Stonehouse (Plymouth) board of guardians.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the Public Hall, Liskeard, Cornwall, on April 20th, Mr. George Stephen Meadows, M.B., C.M. Edin., was presented with a silver salver and a pair of silver candlesticks by the members of Bodmin, Liskeard, Looe, Mutley, Saltash, and Torpoint Choral Societies as a mark of their respect and esteem and a slight acknowledgment of the gratuitous musical services which Dr. Meadows had rendered to the societies.

rural district of Leominster in Herefordshire. The inspector who had been in office about 20 years having resigned, the district council advertised for a successor and more than 100 persons responded, although the salary offered was only £70 per annum, with no allowance towards the expenses entailed in getting about the district. Among those who applied for the post were several men who held a certificate of competency from the Royal Sanitary Institute or who were otherwise specially qualified. The district council did not elect one of these and upon applying to the Local Government Board to sanction the appointment of another candidate it received a communication from the Board asking for the special reasons which led the council to make this particular selection as the person chosen appeared to have no previous experience of the duties of the office of inspector of nuisances. In the course of its reply to the Board the district council stated that its nominee proposed to enter for an examination for inspectors of nuisances during the next few months, whereupon the Board intimated that for the present its sanction to the appointment would be withheld but would be given in the event of a proper certificate of proficiency being obtained within a year. The Board is to be congratulated upon the firm stand it has taken which is so entirely in the interests of the public health.

The Aberystwyth Board of Guardians and its Medical Officer.

The Aberystwyth guardians were informed at their meeting on April 16th that the assistance rendered by the infirmary house surgeon would be withdrawn at the end of April. Mr. W. Thomas, the ex-mayor, said that he was satisfied that they had done the right thing and he now proposed that a copy of the letter should be sent to the Local Government Board with an intimation that the guardians had no medical officer in view and threw the responsibility for the entire care of the sick inmates on to the shoulders of the Local Government Board. This was seconded by Mr. E. Morris and on being put to the vote was carried.

The Bridgwater Rural District Council and its Medical Officer of Health.

The Bridgwater rural district council recently decided to reduce the salary of its medical officer of health from £70 to £60 per annum. The Local Government Board, however, does not approve of this proceeding, and at a meeting of the rural council held on April 11th a letter was read from the Board advising the council to reconsider its decision and contending that the reasons for the proposed reduction were insufficient. It was proposed that the original salary should be paid and this was seconded, but eventually an amendment was carried by 8 votes to 5 to the effect that the Local Government Board should be informed that the council, after having fully considered the matter, is of opinion that it is fully justified in making the reduction.

April 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Motor Ambulance for Glasgow.

BY next month the St. Andrew's Ambulance Association will have on the road a new and specially equipped motor ambulance. This vehicle, it is expected, will extend the sphere of the society's usefulness in the Glasgow district and its work will be of interest far beyond the city, being one of the first of its kind in use in the United Kingdom. The motor ambulance when complete will have accommodation for two accident cases in ordinary circumstances but it is to be so constructed that it will accommodate more than double that number in an emergency. It will be lighted by electric light, and a red cross lamp will light its path at night and a glass transparency indicate during the day the mission which it fulfils. With the motor ambulance it will be possible to attend accidents on the fringe of the wide Glasgow district and to insure a much more speedy journey for the unfortunate injured to the various infirmaries.

The "Alice Mary Corbett" Memorial Nurses' Home.

This home, given by Mrs. Polson to the Glasgow Samaritan Hospital for Women in memory of her daughter, the late Mrs. Cameron Corbett, was opened recently and formally handed over to the governors of the hospital. This new addition to the hospital consists of three storeys and accommodation is provided for 28 nurses, each nurse having a separate apartment, while a suite of rooms is reserved for the matron. A large drawing-room for the nurses is situated on the ground floor. The building, which with the site has cost £10,000, has also been furnished at the donor's expense.

Relief of Incurables.

Under the management of the Glasgow and West of Scotland Association for the Relief of Incurables there are two homes—the Lanfine Home for patients suffering from pulmonary tuberculosis and not considered suitable cases for admission to a sanatorium, and the Broomhill Home, into which patients suffering from other ailments are admitted. The medical officer's report for the past year shows that in the Broomhill Home at the end of December, 1904, there were 108 patients under treatment, as compared with 117 in 1905; while in the Lanfine Home there were ten patients, as against 13 at the end of 1905. One point which is very satisfactory is that in the Lanfine Home, although intended for those cases not considered suitable for sanatoriums owing to the advanced stage of the disease, one patient was dismissed as cured during the year, while five left the home considerably benefited. The advantage of such a home for advanced cases of pulmonary tuberculosis is very evident both to the patients themselves and also to those who as inmates of dwellings from which the patients have been removed are extremely liable to be infected with the disease. It is to be noted with regret that for the year there is a debit balance of £1465 and on this account the directors will be unable for the present to carry out any further extensions and thus during the next year there can be no more admissions to the Broomhill Home except owing to the death or removal of inmates.

Small-pox among Alien Emigrants.

In a report to the Glasgow town council Dr. A. K. Chalmers, medical officer of health of Glasgow, draws attention to some grave defects in the housing and inspection of alien emigrants detained in Glasgow for a longer or shorter period while waiting for the steamer to convey them to America. A case in point is that of a Russian Jew who was admitted to hospital on March 26th suffering from small-pox. He arrived from Russia *viâ* Rotterdam and Grangemouth on March 22nd and with four others was accommodated in one of the hotels of the city. On the evening of admission he visited the shop of a fellow countryman who, observing an eruption on his face, took him to another hotel which is also used by emigrants and at once communicated with the medical officer of the shipping company concerned. In this latter hotel the patient was detained in a room by himself but in the previous hotel he occupied two rooms in succession and had opportunities for mixing with between 400 and 500 people who were accommodated in the hotel. The Aliens Act, 1905, holds the shipping companies responsible for the completion of transit of such persons as they have introduced into this country, but while in Glasgow, as this case illustrates, infection from a small-pox patient may reach a considerable section of the resident population before its presence is recognised. It would therefore seem desirable that so long as this traffic continues these emigrants should be housed by themselves and regularly inspected so that the public may have a reasonable degree of protection against imported disease. It is worthy of note also that there is no daily medical inspection of emigrants, although the interpreters employed are expected to intimate at once any case of sickness coming under their notice.

Commemoration Day at the University of Glasgow.

On April 18th the University of Glasgow was *en fête* to celebrate Commemoration Day. An elaborate programme was carried through, the most interesting item being an oration by Professor Henry Jones on Francis Hutcheson, who was professor of moral philosophy in the University from 1730 to 1746. At the conclusion of the address honorary degrees were conferred on several distinguished individuals.

April 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

A MEETING of Convocation of the Royal University of Ireland was held in the University Buildings on April 20th, Mr. Edward Cuming, M.A., barrister-at-law, presiding. After other business had been transacted Dr. J. C. McWalter, M.A., proposed a motion that lady graduates should be entitled o become members of Convocation. The Rev. Mr. Leslie aid that he quite agreed with the motion and would support t provided that the Senate endeavoured to obtain powers to naintain order amongst the male graduates. He moved the ollowing amendment:—

> Provided that the Senate seeks such alteration in the Charter as will ive it sufficient power to maintain order and discipline in this University.

The Rev. Mr. Pillor seconded the amendment. The amendment was not, however, pressed and the original motion was carried. With reference to the disorders which had taken place the chairman said that he regretted and condemned as much as anyone the proceedings which took place at the conferring of degrees in October last. He considered that they were offensive and objectionable but as a member of the Senate for many years he was strongly of opinion that it was not for the benefit of harmony in the University or of university education that they should hold a discussion on this matter six months after it took place. He thought that a very exaggerated importance had been given to the matter and to those who took part in it. Subsequently, Dr. John Campbell of Belfast was elected a member of the Senate in place of his honour Judge Shaw, K.C., resigned. The following was the result of the voting: Dr. J. Campbell, 298 votes; Dr. E. Magennis, 106; and Mr. Perry, C.E., 61. There was one spoiled vote. Dr. Campbell is the President of the Royal University Graduates' Association. His election will strengthen the medical side in the Senate.

Tughan v. Darnell.

It was announced last week that the notice of appeal against the verdict in this celebrated case has been withdrawn, which leaves the result as a verdict for the plaintiff. The case, it will be recollected, was brought against a medical man for alleged negligence. At the first trial the jury disagreed, at the second they found for the defendant, and at the third for the plaintiff. Two special points of great interest to the medical profession came up in this trial. The judge (the Lord Chief Baron Palles) decided that the ordinary custom or practice followed by the medical profession could not be regarded as evidence or of value unless tested by the jury in its bearing upon the particular case at issue. The other question was the definition of negligence. Previously judges had laid down the rule that negligence meant want of skill, but that in medical matters, owing to the nature of the science, the same exactness could not be expected which would be demanded in the case of an engineer who is controlled by distinct limitations recognised by everyone. The Chief Baron, in the Darnell case, quoted a definition (he did not give the name of its author) of negligence which will, if it is now to be the accepted one, make medical practice very difficult. Negligence on the part of the medical man, he said, was want of consummate skill, care, and foresight. One can understand a medical man being expected to have care and skill. If this care and skill are to be "consummate" it is bad enough, but if in addition he is to show consummate foresight I am afraid legal actions against members of the medical profession will increase tenfold. Imagine lawyers being compelled to live up to such a test.

Mater Infirmorum Hospital, Belfast.

From the twenty-second annual report of this hospital it appears that during the past year there were 1525 interne patients, 3762 accidents, and 22,597 out-patient cases. 389 surgical operations were performed. The total number of patients who received treatment was 27,834, being an increase of 1517 as compared with the year 1904. The most notable increase is in the number of accident cases. The expenditure was for the past year £5152. The increase of expenditure over income during the past two years leaves a balance due to the bank of £257 19*s.* 9*d.* Additional funds are urgently required.

April 24th.

PARIS.

(From our own Correspondent.)

Consolidation after Dental Grafts.

The mechanism of consolidation after dental grafts has been studied experimentally by M. Mendel who recently read a paper on the subject before the Anatomical Society. Microscopic sections show that if an extracted tooth be immediately replaced the alveolo-dental membrane takes on all the work of consolidation and it is impossible to distinguish between the sections of a re-implanted tooth and of a normal tooth. If, however, the grafted tooth be dry—i.e., not freshly extracted—an ossifying process is brought about, callus develops, and the alveolo-dental membrane plays no part.

Drug Eruptions.

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Obituary.

GEORGE BUCHANAN, M.D., LL.D. ST. AND., F.F.P.S. GLASG.

ONE of the links connecting the University of Glasgow with a past generation has been severed by the death at Stirling on April 19th of Dr. George Buchanan. Dr. Buchanan occupied the chair of clinical surgery in the University of Glasgow for many years, retiring some time ago on account of declining health. He was the son of Dr. Moses Buchanan who was lecturer on anatomy in the Portland-street School of Medicine, a school which has long since disappeared, and subsequently became professor of anatomy in Anderson's College. Dr. George Buchanan succeeded his father as Professor of Anatomy in Anderson's College and was appointed surgeon to the Glasgow Royal Infirmary. There he was a colleague of Lord Lister and did admirable work before the days of Listerism. It is worthy of note that when chloroform was introduced to the notice of the medical profession he was the first practitioner in Glasgow who volunteered to test the influence of the anæsthetic on himself. In 1874 he was appointed Professor of Clinical Surgery and at the same time became surgeon to the Western Infirmary, a post which he held with much acceptance and distinction until his retirement a few years ago.

Dr. Buchanan was a bold and skilful operator. It was he who first introduced the operation for excising half the tongue and he was also the first to excise the superior maxillary bone for cancer. As a teacher he was a great favourite among the students on account of the clearness and precision of his teaching and also because of his genial personality. By the death of Dr. Buchanan one of that small and fast dwindling group of medical men who served as surgeons in the Crimean war has been lost.

WILLIAM SCOTT CORE, M.D. R.U.I., L.R.C.S. EDIN.

Dr. W. S. Core, a well-known medical practitioner, died suddenly at his residence, Belfast, on April 21st, after an apoplectic seizure in his bath on that morning; he succumbed in three hours. The deceased, who was 59 years of age, was born in Caledon, being a son of Captain Core of the Tyrone Fusiliers. Studying at Queen's College, Belfast, he graduated M.D. in the old Queen's University and he also became L.R.C.S. Edin. Beginning practice 35 years ago he started in the same district of Belfast in which he resided until his death, and where, by his skill, attention, and kindness to patients, he surrounded himself with a large *clientèle*. For more than 30 years he was medical officer to the Northern Counties Railway (now owned by the Midland Railway Company). Dr. Core was an admirable musician and did much to improve the taste of the public with whom he was brought in contact in this art. He was also a well-known and highly respected member of the Masonic body. Dr. Core leaves a widow, one daughter, and three sons. He was buried in the city cemetery of Belfast on April 23rd, a very large concourse of friends and patients attending to show a last mark of regard.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Alexander Haslund, the well-known professor of dermatology in Copenhagen, aged 62 years.—Dr. V. Vleminckx, president of the Belgian Medical Academy.—Dr. Robert O. Doremus, formerly professor of chemistry and forensic medicine in the Bellevue Hospital Medical College, New York.

MEDICAL MAGISTRATE.—The name of Dr. Frank Russell of Heaton, Newcastle-upon-Tyne, has just been added to the commission of the peace for the city and county of Newcastle-upon-Tyne.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—A examinations held in April the following candidates pass in the subjects indicated:—

Surgery.—T. P. Braim, Leeds; L. C. W. Brigstocke (Section I St. George's Hospital; D. L. E. Gay (Section I.), Lausanne; J. H Harrison (Section II.), Sheffield; C. L Senn (Sections I and II Geneva; E. F. Thomas (Section I.), Middlesex Hospital; an P. C. W. Laws, Oxford and St. George's Hospital.

Medicine.—J. W. Blooker (Sections I. and II.), Amsterdam; H. A Fenton (Section I.), St. Mary's Hospital; D L. E. Gay (Section I Lausanne; O. P. N. Pearn (Section I), Westminster Hospital C. L. Senn (Sections I. and II.), Geneva; H. Smith (Section I. and II., Sheffield; E. F. Thomas (Section I.), Middlese Hospital; and A. P. Wright (Sections I. and II.), Glasgow an Liverpool.

Forensic Medicine.—J. W. Blooker, Amsterdam; H. A. Fenton, St Mary's Hospital; D. L. E. Gay, Lausanne; C. L. Senn, Genera H. Smith, Sheffield; and E. F. Thomas, Middlesex Hospital.

Midwifery.—R Beesloy, Manchester; D. L. E. Gay, Lausanne C. L. Senn, Geneva; and E. F. Thomas, Middlesex Hospital

The diploma of the Society was granted to the following candidate entitling them to practise medicine, surgery, and midwifery: T. P. Braim, J. H. Harrison, P. C. W. Laws, C. L. Senn, and A. P. Wright.

UNIVERSITY OF CAMBRIDGE.—Mr. Stanley Boy and Mr. L. A. Dunn have been appointed Examiners i Surgery and Dr. H. Morley Fletcher an Examiner i Medicine for the M.B degree.—The following candidate have passed the Sanitary Science Examination and ar entitled to the University Diploma in Public Health:—

K. V. Amin, H. B. Arbuckle, J. O. Bridge, T. Carnwith, J. T. Clarke C. V. Craster, C. Fraser, A. E. Hodgson, E. C. G. Maddock, J. A Mitchell, J. M. Morris, E. L Perry, W. Thorp, and W. J. Wilson

—Mr. W. Bateson, F.R.S., St. John's, has been appointe deputy for the Professor of Zoology and Comparativ Anatomy during the ensuing academic year.

UNIVERSITY OF DURHAM.—At the Second Examination for the degree of Bachelor in Medicine held recently the following candidates satisfied the examiners:—

Anatomy, Physiology, and Materia Medica.—Second-class honours Eldred Curwen Braithwaite, College of Medicine, Newcastle-upon Tyne. *Pass list:* Harriett Amelia Rachel Apps, London School of Medicine for Women; Charles Ernest Lewis Burman, and Leslie Wilson Evans, College of Medicine, Newcastle-upon-Tyne; Charles Westland Greene, Royal College of Surgeons, Ireland, and College of Medicine, Newcastle upon-Tyne; Arthur Charles Greene, College of Medicine, Newcastle upon-Tyne; Claude Percival Rivers Harvey, London Hospital, and College of Medicine, Newcastle-upon-Tyne; Edmund Hudson, M.R.C.S., L.R.C.P., St. Thomas's Hospital, and Annie Viccars Mack, Herbert Richard McAlconan, Stanley Larmond Randolph, Joseph Albert Sacco Rev. Robert Henry Smallwood, M.A., and Theodore William Stallybrass, College of Medicine, Newcastle upon-Tyne.

UNIVERSITY OF OXFORD.—J. Sholto C. Douglas, B.M., B.Ch., Christ Church, has been elected to a Radcliffe Travelling Fellowship.—The degree days appointed for the present term are as follows: Thursday, April 26th; Thursday, May 17th; Saturday, June 2nd; Thursday, June 14th; Thursday, June 21st; and Saturday, July 7th.—Examinations for scholarships in natural science will be held at Merton College, New College, and Corpus Christi College, commencing on April 24th, and at Brasenose College, commencing on June 26th.—There will be an election to a Fellowship at Merton College on Saturday, Oct. 6th, after an examination in the subjects recognised in the Honour School of Chemistry.—The examinations for the degrees of B.M., B Ch., will commence on Thursday, June 14th. Names must be sent in to the secretary to the Boards of Faculties not later than 10 30 A.M. on Tuesday, May 29th.—The examination for the degree of Master in Surgery will commence on Thursday, June 21st. Names must be sent in to the secretary to the Boards of Faculties not later than 10.30 A.M. on Friday, June 1st.

AN HISTORICAL MEDICAL EXHIBITION.—The exhibition of rare and curious objects relating to medicine, chemistry, pharmacy, and the allied sciences which is being organised by Mr. Henry S. Wellcome of the firm of Burroughs, Wellcome, and Co. will, as that gentleman announces in a preliminary programme, be opened shortly. It will be strictly professional and scientific in character and will not be open to the general public. The advance programme, which may be obtained on application to Mr. Wellcome, Snowhill Buildings, London, E.C., contains several curious and interesting illustrations taken from old manuscripts, while the cover of the programme is embellished on the front page with a coloured reproduction from an incised stone carving of I-em-hotep. In an introductory letter setting forth the objects of the exhibition, the organiser says, "It is my aim to bring together a collection of historical objects illustrating the development of the science and art of healing throughout the ages, ... in particular to trace the origin of the use of certain remedial agents. Why were certain substances used in the treatment of disease? Was their adoption the result of study and practical observation, or was it more usually the result of accident? Were the alleged virtues purely imaginary and due to some superstitious suggestion? .. ... I anticipate that the exhibition will reveal many facts, and will elucidate many obscure points in connexion with the origins of various medicines and in respect to the history of diseases. ... .. I shall greatly value any information sent me in regard to medical lore, early traditions, or references to ancient medical treatment in manuscripts, printed works, &c. Even though the items be small, they may form important links in the chain of historical evidence .. The greatest care will be taken of every object lent. All exhibits will be insured, and ...... packing and carriage both ways will be paid."

THE CHEMISTS' EXHIBITION.—The twelfth annual chemists' exhibition organised by the proprietors of the *British and Colonial Druggist* was opened at the Royal Horticultural Hall in Vincent square, Westminster, on Monday last and remained open until Friday, the 27th inst. The occasion is evidently one appreciated alike by wholesale and retail druggists and has primarily for its object the extension of business opportunities. The number of visitors was very satisfactory and many pharmacists from all parts of the country attended The exhibition is not without interest to medical men, inasmuch as the subjects of exhibition included medical and surgical appliances, drugs, special foods, and so forth. The exhibition affords also some interesting sidelights on the pushful ways adopted by the modern druggist to sell his wares We cannot help remarking that many of the exhibits had a strong flavour of quackery about them, as, for example, "The famous galvanic ring worn throughout the world for rheumatism, neuralgia, insomnia, and kindred ailments—the most profitable and quickest selling side line for chemists." Such an exhibit, we should have thought, would prove offensive to respectable pharmaceutical houses. Some of the stalls, though somewhat crowded together, were splendidly designed and made very attractive, a considerable sum of money evidently having been spent upon them. More in evidence, perhaps, than other wares were sponges, soaps, and perfumery, and a great number of proprietary articles, all of which now go to make up the counter sales of the modern druggist and pharmacist.

LONGEVITY.—Mr. F. Whitfield of Newport, Monmouthshire, celebrated the 101st anniversary of his birthday on April 6th.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 25TH

Compulsory Vaccination.

IN the House of Commons on Wednesday, April 25th, Mr. LUPTON called attention to the question of vaccination and moved "That in the opinion of this House vaccination ought no longer to be obligatory on those who regard it as useless or dangerous."

Mr J. M. ROBERTSON, who seconded the motion, declared that the law of exemption had been frustrated in all directions and in many cases grossly overridden. Applications for exemption had been often met by the most arrogant and insolent refusal because the magistrate avowed that he was not satisfied that the objector properly understood the subject. Some people had been inclined to think that the administration of the law would be considerably improved by sending a few magistrates to prison. He claimed that it was only by statistical proof that they could establish the value of vaccination and that he could judge of the results as well as a doctor or a magistrate. The Jenner Society existed in order to do justice to the reputation of Jenner, but the action of that society was a scientific imposture. The practice introduced by Jenner was no longer a part of the practice or theory of vaccination. Jenner's ground was abandoned nearly half a century ago. He was the means of establishing a penal law on a theory which had been repudiated and was no longer held by the representatives of vaccination. The vaccination of to-day was Pasteurism. That had nothing whatever to do with Jenner and the medical profession in this matter was seeking to gloss over and hide the fact that it had three times changed its ground and all the while been asking for compulsory powers from Parliament to apply a law which by its own confession had been wrong. They wanted to know when the profession began to be right. Instead of admitting that it had compulsion without just grounds it proceeded to bring forward new theories and they had now the theory that vaccination was useless without revaccination which was a negation of the ground on which vaccination stood for 60 years The history of the profession in this matter was a history of error tardily acknowledged and glossed over where possible. 60 years ago the profession gave to the world a declaration signed by 500 men to the effect that vaccination could not convey certain grave specific diseases. That was an error The medical profession had been always finding out that it was in error. They would never have the medical truth on this matter until vaccination was no longer endowed by the State. The resolution, he contended, was moderate and just in its terms. If it were not for the antivaccinators, in regard to whom the *British Medical Journal* adopted such a contemptuous and insolent tone, there would be little known about vaccination. He ventured to say that not one doctor in ten had read Crookshank on vaccination. The ignorant prejudice was not on the side of the anti-vaccinators but to a large extent on the side of the pro-vaccinators, who stood to a dogma which they had learned at College but who had not gone into the grounds on which that dogma could be justified. According to the statistics hundreds upon hundreds of children had been killed by vaccination and if this had been foreseen Parliament would not have agreed to compulsion. Vaccination was either a prophylactic or it was not. If it were a prophylactic a man might defend himself and his family against small-pox as far as he could If it were not a true prophylactic it was an iniquity. The medical profession could no longer deny that hundreds had been killed and many seriously injured by it. Coercion in the matter was monstrous and he asked the House to pass the resolution, trusting that it would elicit from the Government the legislation that was needed.

Mr PICKERSGILL having supported the motion.

The PRESIDENT OF THE LOCAL GOVERNMENT BOARD (Mr. BURNS) said he had not had a great deal of time to consider and decide the many points raised in the discussion. It had been pointed out that there was differential treatment of those who wished exemption and it was pointed out—he was afraid with some truth—that differentiation was made between the rich and the poor, between the educated and uneducated, and between those with a smattering of medical knowledge and those who were innocent of the terminology of the profession He might remind the House that the Act of 1898 was not absolutely compulsory as it allowed conscientious objectors to be exempted under certain conditions. The supreme difficulty was mainly administrative Injustice was due to lack of uniformity in administration and the capricious decisions of magistrates who sometimes behaved on the bench in this matter in a manner that was not creditable. He trusted that magistrates would cease to display differential treatment. With regard to the cost of vaccination, it had become more serious as the years went on. In 1899 the cost was £72,000, in 1900, £237,000, and now, £270,000 He believed the way in which the Act was administered provoked a spirit of resistance to vaccination where otherwise it would not exist He was considering the whole subject in the light of certain reforms which he thought were desirable and inevitable. The question of cost was sufficient to warrant departmental attention at once He was bending his mind to the amendment of the existing procedure in securing certificates of exemption. The Local Government Board considered that some reform in the direction of a statutory declaration being made by either parent at less cost than now would be necessary if the Act were to secure the harmonious coöperation of all sections of the community. He attached a great deal of importance to the temporary suspension of vaccination from early infancy to some sensible later period when the consequences to the individual would be greatly minimised. Further, the Local Government Board would institute an inquiry, for which a committee of the House would not be necessary, into the working of the Act. It thought that uniformity of practice was urgently desirable. He hoped, in view of his statement, that the motion would be withdrawn.

Mr. EUGENE WASON trusted that the Government would consider the claims of Scotland, which at present did not enjoy the liberty English people possessed of declaring a conscientious objection.

Sir W. J. COLLINS said that the Royal Commission of which he was a member was virtually unanimous on the point that the honest objector should not be subject to any penalty. If the Bill of 1898 had carried out the intentions of the Commission the House would not now be discussing this resolution. He could not endorse all that had been said of the profession to which he belonged but no professional man who had a reputation to lose would be prepared to maintain the position as regards the preventive power of vaccination or its innocence as regards injurious results which was originally proclaimed by Dr Jenner when he petitioned this House He was in favour of the abolition of compulsion He believed it would redound to the honour of the profession if they were free from association with the policeman and the bailiff and they would have greater confidence and respect from the public

The motion was by leave of the House withdrawn.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ABBOTT, HENRY KINGSMILL, M.D. Dub., D.P.H. Irel., has been appointed Medical Superintendent of the Hants County Asylum, Fareham.

BELL, T., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Uppingham District of the county of Rutland.

BERGIN, W. M., M.B., B.S. Lond., has been appointed Ophthalmic Assistant, Registrar, and Tutor at Guy's Hospital.

Bird, George William Harvey, M.B, B C Cantab, has been appointed Medical Officer of Health to the Bridgwater (Somerset) Port Sanitary Authority

Gardiner, Peter, M D, C M Glasg, D P H Lond, has been appointed Medical Officer for the Camborne District by the Redruth (Cornwall) Board of Guardians

Horgan, J, L R.C P & S Edin., L F P S Glasg, has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kenmare District of the county of Kerry

Johnstone, John Lloyd, M R.C S, L R.C P, has been appointed Clinical Assistant to St. John s Hospital for Diseases of the Skin, Leicester-square.

Kerrawalla, M P, M D Brux, L R C P & S Edin, has been appointed Clinical Assistant to the Evelina Hospital for Children

Lane, J. S, *L R C P & S Irel*, has been appointed Certifying Surgeon under the Factory and Workshop Act for the Crettyard District of Queen's County

Longridge, C J Nepean, M D Vict. F R.C S Eng M R C P Lond, has been appointed Registrar and Pathologist to Queen Charlotte s Lying in Hospital, Marylebone-road, N W

May, Walter J, L R C P, M R C S, L D S, has been appointed Lecturer on Dental Mechanics at the Royal Dental Hospital of London Leicester-square.

Pearse, James, M D, C M Edin, has been appointed Medical Officer in charge of Troops at Trowbridge (Wilts)

Richards, P A Ellis F I C, F C S, has been appointed Lecturer on Dental Metallurgy at the Royal Dental Hospital of London, Leicester square.

Richmond, James Robert Marr L S A. has been appointed Medical Officer of Health of the West Penwith Rural District (Cornwall)

Rolston, John R., M R.C S Eng, has been appointed Honorary Ophthalmic Surgeon to the Royal British Female Orphan Asylum, Devonport.

Sheehan, M., M R.C S, L R.C P Lond has been appointed Certifying Surgeon under the Factory and Workshop Act for the Mallow District of the county of Cork

Thom, George, M R.C S, L S A., has been appointed Honorary Consulting Surgeon to the Royal Albert Hospital, Devonport.

Tizard Henry J, L R C P Lond., M R.C S, has been appointed Assistant Medical Officer to the Government Mental Hospitals of New Zealand

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Belgrave Hospital for Children, Clapham road, S W —Senior and Junior Resident Medical Officers for six months. Honorariums at rate of £20 and £10 a year respectively, with board and lodging

Birkenhead Borough Hospital.—Junior Resident House Surgeon. Salary £80, with fees

Bodmin, Cornwall County Asylum —Third Assistant Medical Officer, unmarried Salary £135 per annum, with board, apartments, washing &c.

Burley in Wharfedale, Scalebor Park (Private Asylum)—Assistant Medical Officer, unmarried Salary £150 per annum, with board, apartments attendance, &c.

Cambridge, University of Cambridge Pathological Laboratory —John Lucas Walker Studentship Annual value £200, tenable under certain conditions for three years

Canterbury, Kent and Canterbury Hospital.—House Physician, unmarried. Salary £90 a year, with board and lodging

Charing Cross Hospital.—Assistant Physician

City of London Hospital for Diseases of the Chest, Victoria Park, E —Resident Medical Officer Salary £100 per annum with board, &c Also Physician to Out patients Also Surgeon Dentist

Colchester Essex and Colchester General Hospital.—House Surgeon Salary £100 per annum, with board, washing, and residence

Coventry and Warwickshire Hospital.—Junior House Surgeon for six months, renewable *Salary £60 per annum, with rooms board*, washing, and attendance

Devonport Royal Albert Hospital.—*Resident Medical Officer*, unmarried Salary £100 per annum, with board and lodgings

Douglas, Isle of Man, Nobles Isle of Man Hospital and Dispensary —Resident House Surgeon, unmarried. Salary £90 a year, with board and washing

East Suffolk and Ipswich Hospital.—Third House Surgeon Salary £50

Evelina Hospital for Sick Children, Southwark, S E —Surgeon

Fareham, Hants County Asylum —Second Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, board, washing and attendance.

Gosforth, Newcastle-on Tyne City Asylum —Assistant Medical Officer, unmarried Salary £140 a year, *rising to* £160, with apartments, board and laundry

Hospital for Sick Children, *Great Ormond street* London W C —House Surgeon unmarried, for six months Salary £20, with board and residence

Hull Royal Infirmary —House Physician, unmarried Salary 80 guineas *per annum* with board and apartments.

Italian Hospital, Queen s-square, London, W C —Honorary Assistant Physician

Kensington General Hospital late "Queen s Jubilee," Earl s Court, London, S W —Assistant Dental Surgeon, Medical Registrar, Gynæcological Registrar (all honorary)

Leicester Infirmary —Assistant Surgeon.

Metropolitan Asylums Board Fever and Small pox *Hospitals* —Assistant Medical Officers Salary £160 per annum, rising to £240, with board lodging attendance, and washing

Metropolitan Asylums Board, Downs School Sutton Surrey (for Children with Ringworm —Assistant *Medical Officer* Salary £250 per annum and dinner

Miller *Hospital and* Royal Kent *Dispensary*, Greenwich roa S E —Junior Resident Medical Officer Salary £80 per annu with board, attendance, and washing

Mount Vernon Hospital for Consumption and Diseases of th Chest, Hampstead —Resident Medical Officer Honorarium £ per annum, with board, lodging &c.

Newport and Monmouthshire Hospital.—Junior Resident Medic *Officer* Salary £70 per annum, with board, residence, an washing

Oldham Infirmary —Junior *House Surgeon* Salary *£75 per annun* with board, residence and laundry.

Oxford, Littlemore Pauper Lunatic Asylum.—Second Assista Medical Officer, unmarried Salary £120, rising to £150, wit rooms and board

Plymouth, South Devon and East Cornwall Hospital.—Assistan House Surgeon for six months, renewable Salary at rate of £5 per annum, with board, residence, and washing

Royal Dental Hospital of London, Leicester square.—Assistan Dental Surgeon.

Sheffield Royal Hospital.—Honorary Assistant Surgeon Als Two Honorary Assistant Physicians.

Sheffield Union Hospital.—Resident Medical Officer Salary £10 per annum, with apartments, rations, and allowances. Als Resident Assistant *Medical Officer* Salary £80 per annum, wit apartments, rations, and allowances.

Society of Apothecaries of London —Examiner in Midwifery

Swansea General and Eye Hospital.—House Surgeon. Salary a rate of £50 per annum first six months, £75 per annum after, wit board, apartments, washing, and attendance.

Victoria Hospital for Children, Tite street, Chelsea, S W —Honorary Anæsthetist.

Warrington Infirmary and Dispensary —Junior House Surgeon unmarried Salary £100 per *annum*, with residence and board.

West Bromwich District Hospital.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence and washing

West London Hospital, Hammersmith road, W —Assistant Anæsthetist. Also Second Assistant Anæsthetist. Also Casualty Surgeon

Western General *Dispensary*, Marylebone-road, N W —Honorary Surgeon.

Births, Marriages, and Deaths

BIRTHS

Curtis —On April 20th, at Lyndes Redhill, the wife of Frederick Curtis F R.C S Eng., *of a daughter*

Gabb —On April 17th at Cornwallis-gardens Hastings, the wife of Harry Secretan Gabb B A, M B, *B C*, *prematurely*, of a daughter (stillborn)

Gates.—On 21st April at Via Palestro A, *Florence*, Italy, the wife of Edward A. Gates, M D, M R C P, of a son

MARRIAGES.

Day—Williams —On the 21st inst, at St. George s Stonehouse, Plymouth, by the Rev J Gaud, assisted by the Rev Nicholson Watson vicar of St. George s, and the *Rev Walter Moyle* vicar of Ashcombe, Dawlish, William Frank Lydstone Day, M B B C *Cantab*, *youngest son of the late* Robert Newcombe *Day of Harlow* Essex and Dorothy Esther Katherine Williams younger daughter *of* F M. Williams medical officer of health for Plymouth.

Fox—Fox.—On April 19th at All Saints Church Holbeton, Edward Hamilton Bruce Fox, M R C S, L R C P, of *Woolston Lodge* Southampton, to Maude Geraldine *second daughter* of Charles Alfred Fox of Battisborough House, *Holbeton*

Macarthur—Sommerville.—On April 17th, at St Mary's Episcopal Church, Port-Glasgow William Forrest *Macarthur* M B, C.M, to Margaret, daughter of R G Sommerville, J P, Aldergrove, Port Glasgow

Pendred—Matthew —On April 23rd, at St. Barnabas, Addison road Kensington, by the *Rev J Grant* M A. assisted by the Rev T Guy Rogers B D, Vaughan Pendred M D, F R.C S Eng of Coventry, *eldest son of Vaughan Pendred*, M I M E, and Mrs. Pendred, of Crabill, Pendennis-road Streatham to Beatrice Elizabeth daughter of Dr and Mrs Mordaunt Matthew, of 22, Holland road Kensington, W

Pridmore—Paul.—On April 18th at Christ Church Westminster Eric Leonard Norman Pridmore M D, to Sophie Emily Marie Pauline Paul, daughter of the late Bernhard Ralph Paul of Shortlands, Kent.

Shuter—Saundby —On April 25th at Edgbaston *Parish Church* by the Rev Canon Foakes Jackson D D, Dean of Jesus College, Cambridge, *assisted* by the Rev A. *Roberton* Alfred Deve Shuter, M A Cantab., second son of William Shuter, 22, *Belsize*-grove *Hampstead to Marjorie* Spencer, daughter of Robert Saundby, M D, J P, Professor of Medicine in the *University of Birmingham*

DEATHS

Buchanan —At Balanton, Stirling on the 19th inst., *George* Buchanan, M A., *M D*, *LL D* aged 79, Emeritus Professor of Clinical Surgery Glasgow University

Hutton —*On the 24th inst*, at Lulworth House, Birkdale, Lancashire the residence of her *son* Dr D M Hutton *Eliza Peddie widow* of *David Hutton Esq.*, of Parkfield road Liverpool *and youngest* daughter of the Rev Peter Steele, M A, late *of Moray* House Training College Edinburgh in *her 69th year*

Scott —On the 24th inst., at Bury *Lodge* New Malden, Surrey, John Scott, F R.C S, late of *Harley street*, W, aged 90

Spackman —On April 21st, in *London*, Coniston Spackman, M R.C S, L.R.C P, aged 46

N B —A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

A WARNING.

To the Editors of THE LANCET.

SIRS,—I am reluctant to trespass upon your space but I shall be very glad if you will permit me to give my brother practitioners a word of warning through your columns; it may save them from being victimised as I have been. There is a certain practitioner at present doing locum work who has caused me annoyance and injury to an extent that is hardly credible. From what I hear he has treated other medical men in a similar manner and I wish to put my fellow practitioners on their guard against a man whom it is dangerous to employ. The person in question is an Eurasian (I make no complaint here against either Eurasians or Indians as a class) and can be identified by his extraordinary flow of eloquence upon the subjects of his own abilities and experiences. I confess I was not entirely free from suspicion as to his character when I engaged him at rather short notice to do a few weeks' locum work. Neither his appearance nor manner inspired confidence. I believe now that he wished to give me such a bad impression of him that I would be inclined to pay him a sum down to be released from the arrangement. I sincerely wish now that I had made the sacrifice. After I had left home he tried to give my family the impression that he was a dangerous man to cross. He boasted of having made himself so obnoxious to two former employers that they had severally offered him £100 to leave their neighbourhood. This I can readily believe. He also declared it was his habit to revenge himself upon any who had injured him in a manner quite Eastern in its completeness. On my return from the country I found a very unsatisfactory state of affairs. I discharged the man for insulting young girls, for neglect of duty, and for making libellous statements to the patients about myself. The man's conduct is hard to understand except on the hypothesis of mental trouble, for I had done nothing either by word or deed to arouse his hostility. He had no sooner left my house than he began a system of malicious persecution. He went round among my patients repeating his libellous statements and in some instances telling those who owed bills that they need not pay them, as the fees were not legally recoverable. This in one case necessitated my suing the debtor in the county court. As for the charges he made against me, they were so obviously untrue that I am glad to say very few of my patients gave them any credence. Not content with the revenge he had taken he called upon my dispenser and tried to get his assistance in opposing me and upon the dispenser's refusal he made use of threats. I discovered that during my absence he had called in a friend of his to pose as a consultant. He obtained a fee of £3 3s. for his friend and handed over the case to him entirely, of course to my detriment. No doubt the medical friend kindly acts as a reference in return for such favours. All I have stated is capable of legal proof. If any other medical practitioners who have had a similar experience to mine will kindly communicate with me through the medium of this paper it may be possible to bring the matter to the notice of the General Medical Council. It may be asked why I have not already taken legal proceedings instead of writing this letter. Well, an appeal to the law is expensive and tedious. I have neither the time nor the money to spare for a prosecution; nor have I written this letter for the gratification of revenge. I shall be content if through my action the medical profession is saved from further discredit and the public protected from insult and injury at the hands of a man of criminal tendencies. I inclose my card, and with apologies for the length of this letter,

I remain, Sirs, yours faithfully,

April 23rd, 1906. VICTIM.

⁂ The agent through whom the locum-tenent was obtained should be communicated with. If only a fraction of what our correspondent says can be proved to the satisfaction of a respectable agent Othello's occupation will be gone.—ED. L.

THE DURABILITY OF CARDIAC MUSCLE.

PROFESSOR LORTET, member of the French Academy, has published an interesting report upon the condition of the heart and viscera of King Rameses II. (the Greek Sesostris) after their embalmment for 3161 years. It seems that some months ago the governing body of the Musées Nationaux du Louvre in Paris acquired possession of four beautiful canopic vases covered with blue enamel and bearing the insignia of the ancient Egyptian monarch referred to. These were handed over to Professor Lortet for a chemical and microscopical examination of their contents, and Professor Hugounenq, Professor Renaut, and Professor Rigaud were associated with him in the work. Three of the vases were filled with linen bandages, impregnated with soda and glued together with aromatic resinous substances of a red colour. There were also present certain indeterminable granular substances, mixed with pulverised soda, which are conjectured to be all that is left of the stomach, the liver, and the intestines of the great king. The heart was found in the fourth vase, which is ornamented on the lid by a jackal. The appearance of the organ is that of an egg-shaped plate about eight centimetres long by four centimetres broad. Its tissue was found to be so solid and horny that in order to separate a portion from it recourse had to be had to the saw. A section was subsequently removed with a razor and submitted to the microscope, when the horny substance was seen to be composed of bundles of muscular fibre, arranged in the cross mesh peculiar to the formation of cardiac and glossal muscle. The tongue of King Rameses II. is, however, undoubtedly present in the royal mummy found in 1881 at Thebes and deposited in the Egyptian Museum at Cairo in 1886, so that there seems to remain no doubt that the organ observed by Professor Lortet is the heart. Rameses II. died 1258 B.C. The 3000 years that have since elapsed and the desiccating effect o soda and aromatic gums have been able to reduce the bulk of the king's heart but not to alter its anatomical formation, while the other viscera have been changed to unrecognisable dust.

MONSTERS.

To the Editors of THE LANCET.

SIRS,—I should be greatly obliged if, through the medium of your correspondence columns, any of your readers could give me information about the literature of fœtal malformation or "monsters."

I am, Sirs, yours faithfully,

April 17th, 1906. X.

AN UNFORTUNATE CIRCULAR.

A MEDICAL man, who makes no pretence of disinterestedness, writes as follows:—

> The following notice has been sent to every tenant of St. James' Court, Westminster, a block of residential flats in which I and many other medical men have patients residing. Two copies of this notice have been handed to me by patients on whom I am in actual attendance at the moment:—
>
> "The Resident Estate Manager begs to inform the Tenants of St. James' Court that Dr. W. Moyle O'Connor has taken up his residence in No. 43 and 44, Queen's House as Resident Physician to the Court, and that his services are available for the tenants at any time they may be required."

Dr. O'Connor will be well advised to check the resident estate manager's zeal in his behalf. Probably Dr. O'Connor knew nothing of that gentleman's ill-designed efforts, while the resident estate manager may be supposed to be ignorant of the fact that medical men, who are not allowed to advertise themselves, are also not allowed to benefit by the advertisements of others. We sympathise with the resentment of our correspondent.

IS BARLEY WATER A SUITABLE FOOD FOR INFANTS?

To the Editors of THE LANCET.

SIRS,—The letter of "Lacto" in THE LANCET of April 21st, p. 1150, shows very clearly the confusion which arises owing to the use of the terms caseinogen and casein for the chief proteid of milk and his implied protest is certainly wanted. Surely the time has come to abandon the use of the term "caseinogen"; philologically it is barbarous—casein is from the Latin *caseum*, gen is the Greek root γεν, and where the "o" comes from is a mystery. The root γεν means to beget and is quite rightly used in hydrogen, oxygen, &c., but in "caseinogen" it has apparently altered its meaning as this substance is not one which begets casein but which splits up into casein and other products of hydrolysis. Again, "caseinogen" forms salts with bases; are these to be called caseinogenates? and if so, how is the word to be pronounced? The so-called "casein" is really only one of a whole series of compounds produced by the hydrolysis of "caseinogen," and it is only the accidental property of the insolubility of its acid double salt with calcium phosphate that leads it to be produced. Surely, it is better to keep the name "casein" for the parent substance, as is done on the continent, in America, and by a large section of chemists in England. Let us wipe the monstrosity "caseinogen" from the language and avoid the confusion into which all sooner or later are led. I may instance this confusion by referring to a very recent book, Mann's "Chemistry of the Proteids"; in a footnote he states that he has adopted Halliburton's nomenclature; in the text he actually uses the words casein and caseinogen indiscriminately.

I am, Sirs, yours faithfully,

H. DROOP RICHMOND.

Woodfield-road, Ealing, W., April 21st, 1906.

THE EFFECT OF SUPERAERATED WATER UPON FISH.

UNDER normal conditions fish live in water which contains no more dissolved air than may be absorbed spontaneously at atmospheric pressure and the prevailing temperature. If, however, this amount is greatly exceeded—that is, if the water becomes superaerated, the fish exhibit remarkable symptoms often ending in death. A marked analogy exists between this affection and caisson disease in man. In the latter the body sustains an actual increase of pressure which is subsequently removed and the symptoms follow. This change of pressure has no counterpart in the case of the fish, except that the supersaturation of the water with the atmospheric gases is referable to an increase of pressure. At the station of the United States Bureau of Fisheries at Wood's Hole, Massachusetts, a quantity of sea water became supersaturated with air and the *Scientific American* of March 31st published some details of the effect produced. The absorption of air was due primarily to a leaky suction-pipe which allowed air to pass with the water into storage-tanks where it was subjected to a pressure of about eight pounds per square inch. From these storage tanks the water flowed to aquaria and being again at atmospheric pressure was in a condition of supersaturation with air. The fish showed a variety of symptoms. There was first a precipitation of very minute bubbles upon their bodies and fins, completely covering them. After a longer time small collections of gas formed in the skin, chiefly of the fins, and sometimes made the fish so buoyant that they could scarcely keep below the surface. Death resulted after a longer or shorter time from gas embolism or the presence of free gas within the blood-vessels. Often the vessels of the gill filaments were filled with gas and the ventral aorta and bulbus of the heart were distended with it and quite empty of blood. This gas contained about 97 per cent. of nitrogen.

HOW TO MAKE "HUMANISED" MILK.

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent "B. (Medicus)" in THE LANCET of April 21st, p. 1150, as to the making of "humanised" milk the following directions for making artificial human milk are taken from Playfair's "Science and Practice of Midwifery": "Take half a pint of skimmed milk, heat it to about 96° F., and put into the warmed milk a piece of rennet about an inch square (or Clarke's essence of rennet may be used). Set the milk in the fender or over a lamp until it is quite warm. When it is set remove the rennet, break up the curd quite small with a knife and let it stand for ten minutes or a quarter of an hour, when the curd will sink. Now pour the whey into a saucepan and boil it up quickly. Measure one-third of a pint of this whey and dissolve in it, when hot, 110 grs. of milk sugar. When this one-third of a pint of whey is cold, add to it two thirds of a pint of new milk, and two teaspoonfuls of cream, and stir. The food should be made fresh every 12 hours and warmed as required. The piece of rennet when taken out can be kept in an egg-cup, and used for ten days or a fortnight. It is advisable during the first month to use rather more than one-third of a pint of whey, as the milk is apt to be rather too rich for a newly-born child." I am, Sirs, yours faithfully,

JOHN E. H. PARSONS.

Shipton-under-Wychwood, Oxford, April 23rd, 1906.

TWO OLD MEDICAL BOOKS.

A CORRESPONDENT writes: "I recently picked up in an old book shop the following two medical books: 1. '*Profodia Chirurgica*,' published by C. Corbett at Addison's Head and Richard Chandler at the Flower-de Luce, both without Temple Bar. 1732. The author's name does not appear and there is a long dedication to a Mr. Shipton. 2. 'Anatomical Plates of the Arteries of the Human Body.' These are stated to be accurately coloured and reduced from the Icones of Haller with concise explanation. The book is published by E Cox, St. Thomas's-street. 1808." The writer adds that the plates in the second book are very fine and that both books are well bound in leather, and he inquires if any reader can tell him their value.

THE THERAPEUTIC VALUE OF CHEWING GUM.

THE habit of chewing a resinous substance after meals as an aid to digestion is very prevalent in the United States of America and in Canada. The preparations in most demand are known under the names of "chewing gum," "pepine gum," and "pepine." The custom is not unknown among Eastern peoples; thus, in India betel nuts and areca nuts are mixed with lime and used in a similar manner. In a recent number of the *Bulletin des Sciences Pharmacologiques* Dr L. Meunier has given the results of an investigation into the physiological aspect of the chewing habit and has drawn attention to its value in therapeutics. As a result of masticating a piece of chewing gum containing a small proportion of alkali the flow of saliva is increased to five or six times the usual volume. Herein lies the therapeutic value of the habit in cases where the gastric juice is excessively acid and so hinders the digestion of starchy foods. The acid is partly neutralised by the saliva which is thereby enabled to convert the starch into soluble products. A number of patients were put on a diet of 60 grammes of bread and 250 cubic centimetres of water per meal for two consecutive days. A masticatory consisting of an aromatic resin was given after each meal on the second day only. The gastric liquid was analysed half an hour after each meal, when the amylolytic change was considered to be complete and the figures show that the masticatory had in all cases increased the quantity of soluble products produced from the starchy food. Allowing for the dilution of the gastric contents by the increased flow of saliva the figures obtained in ten cases showed a gain of from 30 to 40 per cent. in the soluble-starch products due to the use of a masticatory substance. Dr. Meunier has obtained satisfactory clinical results in all cases of hyperacidity treated by him during a year, which tends to show that the American custom of chewing gum, though based on empiricism, may be supported on scientific grounds. Dr. Meunier does not state the exact kind of resin which he employed, but mastic is a suitable substance for the purpose. It is the resin obtained from *Pistacia lentiscus*, a small tree growing in Scio and in other islands of the Grecian Archipelago, where the resin has been produced from very early ages. It is mentioned in the works of Dioscorides and Pliny. It occurs in small rounded tears, pale yellow in colour, with an agreeable aromatic odour and taste. When chewed it readily forms a tenacious mass which does not stick to the teeth and so can be retained in the mouth for a considerable time.

MEDICAL REFEREES TO INSURANCE COMPANIES.

To the Editors of THE LANCET.

SIRS,—May I through the medium of THE LANCET call attention to what I consider a pernicious practice on the part of some life assurance companies?—viz., in a small town with perhaps half a dozen medical practitioners one only holds the appointment of referee to a big insurance company. By this appointment he gets into touch with the other men's patients and the local agent spreads the fame and skill of "our doctor." This is touting, and touting of the worst sort. Perhaps those who have been victims to this system, like myself, will give their opinion on the question. In a small town—say, of 2000 or 3000 inhabitants—why not appoint all the medical men instead of one only? The latter plan would, I feel certain, tend to cause a better feeling among the profession and in the end would work well in the interest of the insurance companies. Thanking you in anticipation of your publishing this letter, I am, Sirs, yours faithfully,

April 24th, 1906. CYGNUS.

◆

C. B.—We agree with our correspondent that there is no necessity for such advertisement, as the patients on the books of the practice have been privately notified of the intending dissolution. At any rate, one insertion in the local papers would suffice.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (3 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children. Gt. Ormond-street (2.30 P.M.).

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (5th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (1st).—PATHOLOGICAL SOCIETY OF LONDON (St. Bartholomew's Hospital).—5 P.M. Prof. Klein: (1) Bacillus Equi; (2) Conveyance of Plague by Feeding.—Mr. F. A. Rose: Carcino sarcoma of Larynx.—Dr. Andrewes and Dr. Horder: Classification of Pathogenic Streptococci.

WEDNESDAY (2nd).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8 P.M. Specimens will be shown by Dr. Lewers, Dr. McCann, Dr. Tate, and Dr. J. I. Parsons. Short Communication—Dr. Lewers: Three Cases of Epithelioma of the Vulva with History subsequent to Operation. Paper:—Dr. Herman: A Case showing (1) Uterine Contraction without Retraction; (2) Prolonged High Temperature of Nervous Origin.

URSDAY (3rd).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish square, W.).—8 P.M. Card Specimens will be shown by Mr. S. Stephenson, Mr. W. Roll, Mr. A. L. Whitehead, Mr. F. W. Edridge-Green, Mr. J. B. Lawford, Mr. L. V. Cargill, and Mr M. S. Mayou. 8.30 P.M. Papers:—Mr. J. Taylor and Mr T. Collins: Congenital Malformed Cystic Eye.—Mr. M. Davidson: Radium in the Treatment of Rodent Ulcer.—Mr. R. Pickard: Implantation Tumour of Iris.—Mr. Cargill and Mr. Mayou: Tuberculosis of Choroid.

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Discussion on Asthma (opened by Dr. E. F. Willoughby).

IDAY (4th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—8 30 P.M. Discussion on Influenza, its Varieties and Sequelæ.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish square, W.)—5.30 P.M. Pathological Meeting Specimens will be shown by Dr. E. C. Mackay, Dr. J. P. Parkinson, Dr. L. S. Dudgeon, Dr. E. Cautley, Dr. F. Langmead, Dr. G. Carpenter, Dr. J. G. Emanuel (Birmingham), Dr. E. Hobhouse (Brighton), Mr. G. Pernet, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ONDAY (30th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12.15 P.M. Mr. Baldwin: Practical Surgery. 2 P.M. Dr. Arthur: Skiagraphy. 2.15 P.M. Medical and Surgical Clinics. 4 P.M. Mr. Dunn: Ophthalmology.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Galloway: Demonstration of Dermatological Cases (Post Graduate Course.)

UESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.) 5 15 P.M. Sir Lauder Brunton: A Demonstration of Apparatus for Measuring the Blood Pressure in Man.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.)—11.30 A.M. Dr. H. Wright: Bacteriology. 2.15 P.M. Medical and Surgical Clinics.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, Bloomsbury, W.C.)—3.30 P.M. Clinical Lecture:—Dr. Batten: Ataxia in Childhood.

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester square, W.C.)—5 P.M. Exhibition of Microscopic Specimens. Address:—Prof. G. S. Woodhead.

WEDNESDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. J. Cantlie: Clinique. (Surgical) 5.15 P.M. Lecture:—Dr. G. E. Herman: The Prevention of Difficult Labour.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. H. Wright: Clinical Examination of Blood and Urine. 2.15 P.M. Medical and Surgical Clinics. 3 P.M. Mr. Bidwell: Intestinal Surgery.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.)—4 P.M. Clinical Lecture:—Dr. F. T. Roberts: The Physical Examination of the Heart and Great Vessels.

THURSDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Mr. Hutchinson: Clinique (Surgical). 5.15 P.M. Lecture:—Mr. A. H. Tubby: Surgical Diseases of Children.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—11.30 A.M. Dr. H. Wright: Bacteriology. 12.15 P.M. Mr. Baldwin: Practical Surgery. 2 P.M. Dr. Arthur: Skiagraphy. 2.15 P.M. Medical and Surgical Clinics. 4 P.M. Mr. Dunn: Ophthalmology.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.)—5 P.M. Mr. P. C. Mitchell: The Digestive Tract in Birds and Mammals (Lecture II.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. Murray: Demonstration of Medical Cases (Post Graduate Course.)

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, W.C.)—8 P.M. Clinical Evening.

FRIDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Dr. H. Tilley: Clinique. (Throat)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.)—11.30 A.M. Dr. H. Wright: Bacteriology. 2.15 P.M. Medical and Surgical Clinics. 3 P.M. Mr. Bidwell: Intestinal Surgery.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.)—3.30 P.M. Clinical Lecture:—Dr. Batten: Infantile Hemiplegia.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTI-

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We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 25th, 1906.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks
April 20	29·97	S.W.	...	80	57	35	38	43	Overcast
" 21	30·02	W.	...	116	62	42	47	51	Fine
" 22	29·99	W.	0·04	93	56	42	45	49	Fine
" 23	30·09	N.E.	0·02	102	62	39	40	45	Fine
" 24	29·99	W.	0·07	81	48	35	38	39	Raining
" 25	29·83	E.	0·05	112	61	39	39	43	Cloudy
" 26	29·63	S.W.	...	83	49	36	37	40	Overcast

During the week marked copies of the *following* newspapers have been received:—*Standard, Bolton Chronicle, Manchester City News, Spalding Free Press, Andover Advertiser, Evening News (Portsmouth), Leamington Spa Courier, Herefordshire Mercury, Western Mail (Cardiff), Westminster Gazette, Dublin Weekly Times, Liverpool Post and Mercury, Surrey Advertiser, Literary Digest (New York), Scientific American, Daily Chronicle, Irish Times, Morning Leader, Daily News, &c.*

Communications, Letters, &c., have been received from—

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Y.—Dr. R. A. Yeld, Lond.

Letters, each with enclosure, are also acknowledged from—

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The Oliver-Sharpey Lectures

ON

THE BEARING OF METABOLISM EXPERIMENTS UPON THE TREATMENT OF SOME DISEASES.

Delivered before the Royal College of Physicians of London on April 3rd and 5th, 1906,

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ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE VICTORIA HOSPITAL FOR CHILDREN.

LECTURE II.[1]

Delivered on April 5th.

FEVER.

MR. PRESIDENT AND FELLOWS,—The treatment of fever is of the greatest importance. Such cases form a large part of medical practice. They are, moreover, in the majority of instances capable of recovery and the course of the disease may be profoundly modified by rational treatment. That a disturbance of metabolism is a prominent feature is obvious to every observer. An investigation into the nutrition of patients suffering from fever shows at once that a great increase in the excretion of nitrogen in the urine is present as compared with that of a healthy individual on the same diet. This phenomenon may begin early in the disease, even before the pyrexia, but usually does not, and it reaches its maximum much later, often after the crisis. Naunyn,[2] for instance, found on the tenth day that a patient was excreting 10·7 grammes of urea, on the eleventh day the pyrexia subsided and 45·4 grammes were excreted, and on the next day 91·9 grammes. In another case the fever was falling on the twelfth day and the excretion was 54·4 grammes, on the thirteenth 54 grammes, and on the 14th, the day of disappearance of the pyrexia, 90·4 grammes. Garratt found in scarlet fever and measles, however, that the excretion of urea reaches its maximum usually before the temperature returns to normal. When the excretion occurs late it is not due to retention of nitrogenous matter, because analysis of the tissues shows that there is no excess of urea in patients dead from fevers. Also, urea administered to febrile dogs is quantitatively excreted by them. The nitrogen arises from the breakdown of proteid tissue, chiefly muscle. This is shown by the facts that there is a corresponding increase in the output of potassium salts, sulphuric acid, and neutral sulphur and creatinin. The amount of breakdown is much greater than ever occurs with muscular work, and, indeed, in any circumstances except the taking of large quantities of proteid food. It is not due to starvation, for the excretion of nitrogen and the loss of weight is much greater in a fever patient than in a healthy man on the same diet.[3] A similar excretion of nitrogen, though less in degree, is observed after the administration of certain poisons, such as phosphorus, and in conditions of deficient oxidation.

It is important to know the cause of this breakdown of tissue and the possibility of its being due directly to the pyrexia suggests itself. Hot baths, sufficiently prolonged to cause a rise of temperature, give rise to increased oxidation, as shown by the respiratory exchange, and also to a rise in the amount of urea in the urine, occurring on the following and the third day. Predtetschenki found that the carbon dioxide might be even 70 per cent. above normal, and the nitrogen excretion from 50 to 100 per cent. (Speck, Winternitz). Muscular exertion, if carried on under conditions leading to a rise of temperature, such as in unsuitably clothed soldiers marching in hot weather, may also cause a delayed increase in the urea (Zuntz und Schumburg, Speck). But the facts that (1) the excretion of nitrogen in fever is not proportional to the pyrexia and bears no constant time relation to it, and (2) that septic infection may cause a similar rise in the nitrogen without any pyrexia (Simanowsky) are against this view that the pyrexia is the sole cause of the nitrogenous breakdown.

Again, is the tissue breakdown causally connected with increased oxidation? The determination of the oxidation going on has been made by many observers through estimations of the oxygen used and the carbon dioxide given out. The results show that, on the whole, more oxygen is generally used;[4] the excess is usually not more than 10 per cent. and seldom more than 20 per cent. above the normal (Lœwi, Langlois, Babák); there may be no increase in oxidation, and when it does occur it shows no parallelism with the excretion of nitrogen, or with the height of the temperature. Calorimetric experiments on man by Nebelthau showed that there may be an increased production of heat but the prominent factor is the inconstancy of the production. The variability and lack of decision of these results suggest that the larger use of oxygen in fever which may take place is not due to the breakdown of nitrogenous tissue at all, but to other causes, one of which is the muscular movement resulting from the restlessness which accompanies the febrile state. The patient is uncomfortable and slight movements are constantly being executed. We have seen in discussing the question of the effect of rest on metabolism how definite an effect upon the oxidation processes even inappreciable activities occasion. Atwater's subjects produced more carbon dioxide when their sleep was restless. That muscular activity is a cause of the greater use of oxygen is also supported by the observation of Zuntz that the consumption of oxygen is normal in curarised animals rendered septicæmic, since in this case no impulses can reach the muscles and cause them to contract. The non-muscular tissues are also believed to take part in the increased oxidation of fever.[5] It appears, therefore, that the breakdown of nitrogenous tissue is in some cases independent of any increase in the oxygen used, and it is probably due to the action of poisonous substances produced from the micro-organisms which give rise to the pathological process. The pyrexia is a concomitant effect of the poison acting upon the mechanism which regulates the temperature in such a way that the balance between heat production and heat loss is no longer accurately maintained. The loss is usually relatively diminished as compared with the production.

We may sum up then by saying that so far as the evidence at present leads us the products of bacterial infection cause: (1) a disturbance of the heat regulatory mechanism, resulting in instability of regulation; a febrile temperature is more easily altered by hot or cold baths than the normal; (2) a disintegration of the nitrogenous tissues, especially the muscles; and (3) the pyrexial condition is usually accompanied by increased oxidation. This is probably chiefly due to subconscious muscular movements, brought about reflexly from subjective sensations of discomfort.

We have now to ask how far and in what way these processes can be modified by treatment. It is obvious that the first thing to do is to attack the cause by means of antitoxins or any anti-bacterial substances that may be available. In addition to this method, or failing it, every means should be taken to make the patient comfortable, because the more at ease he is the less will be the reflex involuntary movements which may make a considerable demand upon his store of available energy and which in so doing shorten the length of time during which he will be able to resist the infection. Also, we can supply food to make up for energy lost. Although we usually cannot remove the cause of the fever we can diminish some of its effects by adopting measures for the reduction of the temperature. If the temperature be not dangerously high the condition of the patient as to restlessness is a useful guide in considering whether bathing or sponging should be carried out or not in order to increase the heat loss and cause a fall of temperature.

Effect of baths in fever.—The effect of cool baths upon the metabolism is shown in the results of Sassetzky (1883).[6] Nine cases of typhoid fever were observed. In each case a three-day period during which baths were administered was compared with a three-day period without baths and with the same length of time, about four weeks, after the subsidence of fever in eight of the cases. The food during the observations was milk and water. During the bath periods four baths a day were given at a temperature of 22·5° C. The patient sat up to the neck in the water and water was poured on to the head. The beneficial effects of the treatment were distinctly shown in the nitrogenous metabolism. If we take the average of the figures for all the bath periods we arrive at the result that the excretion of nitrogen was less in each case during the bath periods and the loss of nitrogen over the intake was less by 2·7 grammes per day than in the periods without the baths. This is not an average of conflicting figures, for the same effect was seen in each case. 2·7 grammes of nitrogen are equivalent to 16·8 grammes of proteid and to about 89 grammes of flesh. This comes to 267 grammes of flesh, or over nine ounces in the three days. We may assume that the fat in the body would also be spared to a considerable degree. The analysis of the fæces showed that the nitrogen excreted in this way was also less and therefore a more perfect absorption of the proteid of the milk took place during the bath period. The same observer gave quinine in three cases for a similar period and sodium salicylate in two cases for two-day periods. These drugs caused an improvement in the same way. This was more marked with quinine but in neither case was it as great as in the bath observations. Deucher[7] also found that antipyretics, which lower the temperature in typhoid fever, also lessened the loss of nitrogen. Actual nitrogenous equilibrium, however, could not be attained.

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[1] Lecture I. was published in THE LANCET of April 28th, 1906, p. 1153.

[2] Archiv für Experimentelle Pathologie, 18, 49, 1884.

[3] Vide Pembrey, Allbutt and Rolleston's System of Medicine, vol. i.,

[4] Vide Pembrey: loc. cit.

[5] Pembrey, loc. cit.

[6] A Digest of Metabolism Experiments, p. 209; see also Virchow's Archiv, 94, p. 533.

These observations seem to show that tepid or cold baths exert an influence upon the proteid breakdown in the direction of lessening it. The amount of milk supplied was two litres or more, which would give a caloric value of 1400 calories; since this would barely supply the needs, the body might have been calling upon its own proteid for energy needs for muscular movement, secretion, &c. We cannot exclude, therefore, the possibility that the baths really produced their effect upon metabolism by diminishing the subconscious movements with the fall of temperature and thus lessening the call upon the body tissue, and this might explain the results without calling in any effect of the treatment upon the direct poisoning action of the toxins on the proteid constituents of the body. Indeed, we know that cold baths do not shorten the period of the disease in typhoid fever and may conclude from this that they do not intrinsically affect the bacterial process.

In connexion with the question of baths in typhoid fever it is of interest to compare a series of metabolism observations made for other purposes with a series in which baths were given. In the "Digest of Metabolism Experiments," if we compare the figures of the excess of nitrogen in the urine over the intake in the experiments of Diakonov (1890), undertaken to investigate the action of alcohol, with those of Matzkevich (1890), undertaken to ascertain the effects of copious water-drinking but in which each patient received two or three baths per day, we see a marked difference. Each worker observed several cases; the diets are not identical but roughly alike, the amounts of nitrogenous food being similar; but whether we look at the periods with or without alcohol, or with plentiful or restricted water, the most noticeable point is that in Matzkevich's cases, in which baths were used; the loss of nitrogen is usually several grammes a day less than in those of Diakonov. I need hardly remind you that there is strong evidence of a statistical nature that the prognosis in this disease is better under the bath treatment. This beneficial result may be ascribed to the fall of temperature produced. I have already mentioned that experiments on animals have shown that the resistance to a state of inanition is much lessened when the temperature is raised, and though, as we shall see, much may be done in the direction of supplying food to such cases, in most instances we are dealing, nevertheless, with a condition of partial inanition.

Food in fever.—Coming now to the problem of the feeding of fever patients it is obvious from what we have seen of the pathology of this condition that in circumstances in which the proteid tissues of the body are being continually broken down by the action of a poison, while at the same time the needs of the body as shown by the oxidation—that is to say, the ordinary running expenses—are commonly greater than usual, it is desirable to supply to the organism what energy we can, provided that the course of the disease is not thereby adversely influenced. "One of the dangers of prolonged fever is the general failure seen in starved animals."[8]

The absorption of food.—Huppert (1869) found but little deficiency in the absorption of nitrogen in recurrent fever.[9] The first question to be answered is, If food be given, is it absorbed from the intestine? Abramovitch (1888) in seven cases of croupous pneumonia found that the absorption of proteid from bread and milk was sufficiently good during the fever as compared with that after the crisis and in convalescence. It is true that he states the opposite but an examination of the figures shows no difference great enough to have any bearing upon the point at issue. From five to eight grammes of nitrogen were given per day. Pipping[10] (1891) found that in diphtheria with moderate fever in children on a mixed diet the absorption was as good as in health unless the temperature was exceptionally high. Von Noorden found absorption good in two cases of pneumonia and in one of tuberculosis, both for proteid and fat. Hoesslin (1882) in 19 cases of typhoid fever found that the digestion and absorption of a mixed diet were, in respect to proteid, carbohydrate, and fat, very little inferior to those in health. These patients were suffering from diarrhœa which does not seem to affect the utilisation of the food unless it be excessive. Khadgi (1886) found that the assimilation of meat, bread, and milk was almost as good during typhoid fever as in convalescence. Tschernoff showed that the absorption of milk fat was almost normal; from 88 to 93 per cent. was used. We find, then, that in a number of fevers if food be introduced into the alimentary canal it is made use of. The point of difficulty is that the patient has no desire for it. Appetite is wanting because it depends upon the integrity of the stomach and this organ shares in the general depression of function of the whole body. The hydrochloric acid is usually deficient, though not commonly absent. Pepsin may generally be found to be present. Food introduced into the stomach is in most cases passed on into the intestine and though we should expect that in the absence of hydrochloric acid from the stomach the stimulus to the secretion of pancreatic juice would be wanting, nevertheless experiment shows that the nutriment is not usually discharged from the intestine. It does not, however, necessarily follow that it is made use of for purposes of nutrition because we might suppose that it is broken up by bacterial action and its energy lost to the body. The excretion of aromatic sulphates gives a guide to the putrefactive processes going on in the intestine and we find that these bodies are not necessarily increased in the urine in fevers, although this may be the case. The best answer to this doubt is that in fever it is possible to feed the patient so that the body weight is kept up in some cases and in others so that the loss is very much less than it otherwise would be. This fact proves that the food is utilised. There is, of course, no doubt that the putrefaction in the gut is often greater than normal in this condition and carbohydrate and fat may be to a considerable extent broken down into substances which would escape recognition in the analysis of the fæces. Any unabsorbed nitrogen, however, would be recognised as such, while in the putrefactive processes resulting in the formation of tryptophane and its aromatic derivatives it is possible that other amido-bodies formed can be absorbed and made use of, just as they generally are when the proteid is disintegrated by the action of the normal ferments, without an excess of bacterial growth.

In connexion with the question of digestive disturbances due to putrefaction we may notice that proteid is the food-stuff from which the aromatic portion of the molecule of the ethereal sulphates is derived and that consequently the determination of these substances in the urine only gives us information concerning the bacterial action upon proteid in the intestine. But it is important to know what foods favour or hinder this process. Analyses show that a rich diet of proteid with but little of other foodstuffs is likely to undergo more putrefaction than when abundance of carbohydrate is present. This is believed to be because from carbohydrates weak acids are produced which restrain the action of putrefying organisms. The addition of much fat, on the other hand, increases the ethereal sulphates in the urine. So that a diet of all three foodstuffs in the proportions generally used in health—that is, with only a moderate amount of proteid or of fat—is indicated when it is thought that the patient is suffering from the effects of harmful substances absorbed from the intestine. Constipation is favourable to excessive bacterial growth and the removal of this condition when present is often of more importance than the alteration of the diet.

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[7] Zeitschrift für Stoffwechsel, 1905, p. 122.

[8] Pembrey: Allbut and Rolleston's System of Medicine, vol. I.

[9] A Digest of Metabolism Experiments, p. 240.

[10] Ibid., p. 206.

The quantity and kind of food.—We must now inquire what information we may get from metabolism experiments as to the quantity of food which should be given in febrile states. The needs of the body are as great as, or greater than, usual and if possible it would be desirable to meet them with food. This is a counsel of perfection and in many cases will not be attained but, nevertheless, should always be aimed at. We have seen that in starvation, when the body is living upon its own tissues, about 25 calories per day are used for every kilogramme of body substance; fat people requiring somewhat less, since a good proportion of their weight consists of fat, and this does not undergo constant metabolic changes as does all the more living proteid tissue. We should endeavour therefore, unless there is reason to believe that the fever is likely to be of extremely short duration and the individual is well nourished, to give sufficient food to supply at least 25 calories per kilogramme of bodyweight. This is of the greater importance because, as we have already seen, the condition of inanition is far worse sustained with pyrexia. That it is possible to keep the weight from falling during fever is shown by the experiments of von Noorden in a case of typhoid fever. Some other cases quoted by him, such as those of phthisis and chronic sepsis, are less convincing as regards acute fevers. To expect to prevent the toxic breakdown of proteid by means of food is in most cases probably more than is reasonable, but it is essential to supply the energy which the body needs and thus to ward off the addition of inanition to the other dangers of the disease.

Fluid food has the advantage that it satisfies thirst but its energy value is correspondingly low. Three pints of milk contain about 1150 calories. In a man of 70 kilogrammes 25 calories per kilogramme come to 1750 calories. Milk calls forth less gastric juice than other proteid foods, but if it curds must be diluted, peptonised, or decalcified with sodium citrate, as suggested by Professor Wright. It is not within the scope of my subject to discuss the various ways in which the diet may be varied, except in so far as metabolic experiment is concerned. Has such observation shown that any foodstuff has an advantage? Since much proteid is being broken down it seems desirable, even if we do not hope to prevent the breakdown, to supply enough to replace it. An examination of the figures shows that this is not to be expected. In most recorded experiments the amount of proteid given is low, but in those in which it is not, nitrogen equilibrium is not usually attained. In those of Puritz (1893) a diet of over 2500 calories was given, amounting in some of the patients to more than 42 calories per kilogramme per day, and containing proteid corresponding from 20 to 26 grammes of nitrogen per day, and yet in the observations upon six cases of typhoid fever extending from nine to 27 days in the different cases, in none was nitrogenous equilibrium attained. We may therefore ask if there be any advantage in giving such large quantities of proteid food. The observations of Moraczewski[11] in 18 cases of pneumonia show that although nitrogenous equilibrium is not to be looked for, yet the loss of nitrogen from the body—i.e., the output minus the intake—may be much lessened by furnishing a plentiful supply of proteid. He also claims that convalescence is much shorter when this has been done. This we should expect, for the poorer the body is in proteid at the end of the fever the longer would the period of convalescence be. The same has been found to be the case in enteric fever. One way of furnishing a fair quantity of proteid is to add protene or plasmon to the milk.[12]

With the object in view of ensuring that nourishment of a sufficient caloric value shall be provided, as much fat as can be taken without exciting distaste for food should be given. This quantity is not great. In addition to the fat in milk, that of cream and butter is of most value in fevers. One ounce of cream gives about 89 calories[13]; four ounces of milk about 95. So that a quarter of a pint of cream added to the day's feeds of milk adds 356 calories. Butter contains about twice as much fat as cream, and therefore two ounces of butter a day will add another 356 calories to the value, and this is likely to be nearly all absorbed. Hence a quarter of a pint of cream and two ounces of butter introduced in the milk, or upon bread, together add 712 calories to the value of the diet in an absorbable form. This is more than half the need of a woman of 50 kilogrammes, and even two ounces of cream and two of butter add over 500 calories. It is not so necessary to give fat to patients who have a large share of this substance in the body.

Carbohydrate should never be omitted from a diet unless, as in certain severe cases of diabetes, this may be necessary for a time. We have seen that it is very probable that it is the absence of this foodstuff which leads to the appearance of acetone and its congeners in the urine in inanition and other conditions, and there is reason to believe that proteid is broken down to furnish carbohydrate. The experiments of May on rabbits showed that dextrose has a considerable sparing power on proteid in fever just as in health, and that 25 per cent. of the nitrogenous output was diminished by giving dextrose. Moraczewski[14] and others have found the same to be true in man. Our object is to give carbohydrate and fat so as to insure that no proteid need be broken down to supply the energy needs of the body, since we cannot prevent proteid breakdown from toxic action. Starch is probably the best form in which to give these foods. Failure of the amylolysis in the intestine must be a very rare phenomenon and since this process takes place gradually the sugar is probably absorbed at once and the risk of fermentation is less than if a quantity of absorbable sugar is introduced at one time. Such forms of starch as arrowroot, or that in bread, or in biscuit eaten with the milk, are usually well taken. Neither carbohydrate nor fat makes demands upon the digestive activity of the stomach. Since we know, however, from the work of Pawlow that the appetite is much keener when gastric juice is called forth, it is often desirable, whatever the nature of the meal, to cause a flow of this secretion, and this may be done by the use of some form of meat extract, home-made or otherwise. No bulky foods should be used, or the patient will take an insufficient quantity.

Water must be abundantly supplied in all cases of fever. An estimation of its intake and output shows that a smaller proportion of it appears in the urine than in health, as is indeed obvious. The experiments of Matzkevich, already referred to,[15] show that water drinking carried to excess increases metabolism in typhoid fever. Some of his patients took as much as six litres of fluid altogether in the 24 hours. Eight series of exhaustive experiments were carried out and no harmful effect other than the above, which was not constant, was observed. Grandier[16] also found copious water drinking (from five to 13 litres) increases nitrogen loss somewhat. The absorption of food is much the same. The author says it improves secretion from the skin and advises it. The tissues contain more water in fevers, perhaps because the number of nitrogenous molecules is increased.

Typhoid fever.—The feeding of patients suffering from typhoid fever has a special interest apart from general considerations concerning metabolism, in that the intestine is ulcerated, and it has been the general custom to give the food, whatever it be, in fluid form. A growing school of opinion regards this as unnecessary and it adds materially to the difficulty of getting a sufficient amount of fuel into the body, a matter of great importance in this fever from the beginning owing to the prolonged period of partial inanition which is likely to ensue. Also, a fluid diet, usually milk, soon becomes distasteful. In the decision of this question copious clinical statistics must prove a prime factor but it is germane to our subject to see what metabolic observations have been made which throw light upon it. In a number of the Russian experiments referred to when we were discussing the assimilation in fever, bread was taken in quantity with milk and other fluid foods, and in some meat. In those of Hoesslin at Munich, published in 1882, such articles of diet as porridge, rice, and ham formed part of the ration.[17] The foods were chopped and given in frequent meals. He found that the temperature was not harmfully affected. The danger of inanition, he concludes, is a much greater one than that produced by a mixed diet and gastric disturbances and vomiting are much less likely to occur than with the same foodstuff time after time. The observations of Puritz were made upon six soldiers, lasting from five to 29 days in each case. I have mentioned above the sufficiency of the diet in these cases; it amounted to at least 42 calories per kilogramme and often more. Proteid was in excess, nearly three grammes per kilogramme per day, the diet consisting of meat, bread, and milk, with tea, coffee, and port wine. He reports that no albuminuria or rise of temperature was caused by the diet and no complications, relapse, or lengthening of the fever period were observed, that the patients were comfortable, and that the convalescence was shorter.

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[11] [illegible]

[12] [illegible]

[13] Hutchison: Food and Dietetics, p. [illegible]

[14] Loc. cit.

[15] [illegible], A Digest of Metabolism Experiments, p. 12.

[16] Ibid., p. [illegible]

It is interesting to remember that it is possible that the changes in the tissue-lymph circulation described by Dr. George Oliver, the founder of these lectures, which follow a meal may possibly exert, both in disease and in health, a beneficial effect upon metabolism.

PULMONARY TUBERCULOSIS.

In pulmonary tuberculosis we are dealing with an infective process which may or may not be pyrexial. Suitable material must be furnished to the cells of the body (1) to enable them to provide energy for their usual needs; (2) to provide any extra energy they may require in opposing the bacillary growth and withstanding toxins; and (3) to replace any tissue which may be broken down by toxic action. In the pyrexial cases there is often in addition a want of appetite to deal with just as in the shorter fevers. In this condition the motor and secretory functions of the stomach have, nevertheless, been frequently found to be normal. With respect to the toxic breakdown we have seen that it occurs in other infections even without pyrexia. Duclaux[18] ascribes the loss of organic substance to the agency of a ferment-like substance of a tryptic nature derived from the bacillus. The wasting of pulmonary tuberculosis is not due to deficient absorption of food, for many analyses have shown that it is usually normal. For instance, in 1894 Blumenfeld and Spirig found that when from 84 to 168 grammes of fat were given in the form of butter and a mixture of olive oil and oleic acid assimilation was normal. Goodbody, Bardswell, and Chapman found that from 87 to 98 per cent. of the fat given in a mixed diet was utilised, a considerable quantity being given in the day, the averages in each period ranging from 123 to 231 grammes. Proteid is also well absorbed (Mitalesen, Mircoli and Soleri, Goodbody, Bardswell and Chapman, Ott, and older workers) except when a great excess is given, and so is carbohydrate.

Mircoli and Soleri[19] compared the needs of a phthisical patient with those of a normal man. The subject had lost 10 kilogrammes in a year and weighed 77 kilogrammes. The sputum contained a large number of bacilli. There was no pyrexia. A normal individual took a diet of 35 calories per kilogramme containing 14 grammes of nitrogen per day. But this did not suffice for the patient, who only maintained his weight and nitrogenous equilibrium when 50 calories per kilogramme were given and 29 grammes of nitrogen. Each was fed until he felt fully satisfied. He took then 30 per cent. more caloric value and 100 per cent. more proteid than the healthy man. They express the view that the excess of proteid is necessary owing to the direct action of the poison upon the tissues. On such a diet a little proteid was laid on Ott has also shown that even with complete rest a phthisical patient will not only lay on fat but tissue proteid.

I have already referred to a diet of 50 calories per kilogramme as one found essential to maintain equilibrium in a phthisical patient. Goodbody, Bardswell, and Chapman in their researches found that from 50 to 70 calories could be given with advantage. Taking the average, 60 calories, this comes to just over 4000 calories a day in a man of 68 kilogrammes. They found also, as we have seen in the case of normal metabolism, that an excessive diet is very much better borne by patients who are below their usual weight and that it must be relaxed when the weight has passed above the normal figure. If too much food be given, although some of it may be laid on for a time, intestinal and gastric disturbances set in, putrefaction takes place in the intestine to an excessive degree, as was shown by the more than doubling of aromatic sulphates in the urine, and distaste for food soon follows. It is interesting to note that a boy, aged 13 years, whose metabolism was investigated, took and assimilated 3500 calories per day; as his weight was 35 kilogrammes this is over 100 calories per kilogramme per day. A growing individual uses relatively more food, both on account of the growth and of the larger surface loss of heat relatively to mass, and also probably on account of greater activity. The amount of food taken per kilogramme by this boy approaches that used in the case of a woman undergoing a rest cure above referred to (Hale White and Spriggs) who was taking and assimilating well a diet of over 110 calories per kilogramme per day.

With regard to the constituents of the diet Goodbody, Bardswell, and Chapman recommend 120 grammes of proteid, 140 of fat, and 300 of carbohydrate as average figures for an adult. The amount of proteid here is moderate. In this respect we may ask ourselves whether in the light of the recent movement in the direction of diminishing proteid in ordinary diets we have sufficient evidence that such large quantities are necessary in phthisis, since extra work is thrown upon the digestive organs and the kidneys. I do not know whether careful experiments have been done in which the proteid has been replaced by a sufficient caloric equivalent of other food over a considerable period. That the output of nitrogen of the body can be diminished in tuberculosis as in health by carbohydrate and fat has been shown by Laufer, who found that sugar was much more efficient than an equivalent weight of fat and still more so if the caloric equivalents be given, as 94 grammes of sugar correspond to 50 of fat. A similar investigation was made by Bockarev (1893) who investigated the effect of adding malt extract to a liberal diet. From 50 to 100 grammes were given in milk daily. Dry malt extract contains 76 per cent. of maltose and 16 per cent. of dextrin. A teaspoonful containing four grammes gives about 16 calories and a tablespoonful 60 calories, almost as much as an egg.[20] Bockarev's figures show a slight proteid sparing effect such as is to be expected from the addition of a small amount of sugar to the food.

We have seen that a phthisical patient requires more proteid than an ordinary individual according to Mircoli and Soleri, in addition to a diet of greater fuel value. In one mode of treatment extra proteid has been supplied in the form of meat powder. Kurlev (1886) carried out experiments on five cases in which there was forced feeding by means of a stomach tube with a meat powder and milk, and the metabolism during the feeding was compared with the period before and after. Only two of his experiments are of real value, since in the remainder the patient had been fasting. As much as 52·6 grammes of nitrogen (i.e., 52·6 × 6·25 proteid) was given per day for three days. An enormous quantity of nitrogen was laid on in each of the cases. In the one quoted, for instance, 12·8 grammes per day. We may probably assume that their weights were below normal. The heaviest was 54 kilogrammes. Absorption was fair, 3·9 grammes of nitrogen appearing in the fæces. The caloric value of this diet was about 3510 calories. The patients put on weight, the appetite improved, their temperature fell, the dyspnœa, perspiration, cough, and expectoration were less, and sleep was better. Experience, however, shows that with such forced feeding the weight put on above the normal weight is usually lost again,[21] and also causes deterioration in health.

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[17] Virchow's Archiv, Band 89, S. 106, S. 320.

[18] Traité des Microbiologie, tome ii.

[19] Berliner Klinische Wochenschrift, 39, 1902.

[20] Zeitschrift für Stoffwechsel und Verdauungs-Krankheiten, March, 1904.

[21] Goodbody, Bardswell, and Chapman, Journal of Physiology, vol. xxviii., p. 257, 1902.

[22] Comptes Rendus de l'Académie, 130, 1900.

[23] Practitioner, vol. lxxiv., p. 14, 1905.

The value of rest, as employed in the treatment of pyrexial phthisis, has been discussed under the heading of fever. In this disease, in which it is necessary to husband all the chemical resources of the body, the conclusions we have drawn from a consideration of the metabolic circumstances apply with force.

NEPHRITIS.

The object of the physician in treating diseases of the kidneys is to maintain the nutrition of the body while keeping the excretion of nitrogenous matter, of salts, and of fluid, at such a level as shall not act harmfully upon these organs. The number of metabolism experiments in cases of kidney disease has been great during the past few years and patients suffering from acute and parenchymatous nephritis and from granular kidney have been subjects of investigation.

Absorption of proteid.—The absorption of nitrogenous food is reported to be not so good as in health[24]; from 10 to 15 per cent. of the nitrogen taken escapes in the fæces. On examination of the figures of the above workers, however, it will be seen that the amount of nitrogen discharged daily in this way is seldom more than two grammes and often less than one. The high percentage reported is due to the fact that the quantities of proteid given were small and when we remember that even when no food is taken nitrogen is excreted by the bowel we see that the percentage test is not a fair one. In general the nitrogen in the fæces is normal or nearly so. Higher figures have been many times recorded[25] but are exceptional. In such cases there may be as much as five grammes of nitrogen in the fæces in the day. With diarrhœa, such as is not uncommon in kidney disease, there is naturally a greater loss from the bowel and this is usually a coincident symptom in those cases in which an increase in the loss is reported. In Butler and French's paper[26] in four out of the five days in which the fæcal nitrogen was more than two grammes there was excessive action of the bowels. It is clear that we have no means of distinguishing what part of the loss is truly unabsorbed proteid and what part is cellular and secretory detritus or even compensatory excretion by the gut. If such true excretion exist it is clear from the above results that it can only reach a useful figure when there is diarrhœa extending over a considerable period and even then there is the possibility that the nitrogen in the fæces has never been absorbed. In this case the same result would be more intelligently and less harmfully attained by giving a little less proteid in the food. There is more ammonia in the fæces in nephritic than in other diarrhœas, but I do not know that this points to excretion from the gut, for the more recent analyses show that ammonia is not in excess in the blood in these diseases.

The excretion of nitrogen.—In acute nephritis with suppression, partial or complete, of the urine the kidney temporarily does not secrete either water or solids and it is reasonable to give what nourishment can be taken in such forms as will throw no work on this organ at all. Fats and carbohydrates answer this requirement and should for a few days be supplied in the form of dextrin, dextrose, rice, cream, and butter (von Noorden). In the more chronic forms the excretion of nitrogenous material from the kidneys is variously reported upon. Bartels (1877) in granular kidney found that the excretion of urea was normal. Fleischer (1881) affirmed that in chronic as well as in acute Bright's disease there may be retention of nitrogen even to seven grammes per day. Von Noorden and Ritter found both in parenchymatous nephritis and in granular kidney that in some cases there was retention and in others nitrogenous equilibrium and showed that there is frequently an oscillation of excretion, normal periods alternating with periods of retention. A woman with granular kidney took 15·5 grammes of nitrogen per day in the food. The urine contained 20·1 grammes—that is, 4·6 grammes more than that taken in was given out. Four days later the condition was reversed and for five succeeding days she retained 4·9 grammes per day. Again, observation of Mann's figures[27] shows the same thing. A man on a diet containing 17·5 grammes of nitrogen for two days retained 0·5 gramme and for three subsequent days ten times this amount. Similar variations were observed in other patients. Emerson[28] noticed the same phenomenon, a periodic increase of the nitrogen, albumin, and the total quantity of the urine taking place. A comparison is suggested with the spontaneous diuresis which occurs from time to time in diabetes. It is evident that with these alternations to reckon with none but observations extending over several days can guide us. Müller[29] found that if more than nine or ten grammes of nitrogen per day were given there was liable to be retention. This observation is fully confirmed by other workers. For instance, Kornblum's figures show that a patient weighing 62 kilogrammes for 11 days on 13·9 grammes of nitrogen retained 1·3 grammes per day, but on a diet containing 15·3 grammes retained three grammes per day for four days. Emerson's figures also showed delayed excretion of nitrogen on adding eggs to a milk diet in parenchymatous nephritis. We have seen that in normal metabolism this does not usually occur. There seems to be no essential difference between chronic parenchymatous nephritis and granular kidney in this respect, except that the granular kidney can often gradually adapt itself and excrete a larger amount of nitrogen daily. The striking unanimity of experimental results makes it clear that in chronic diseases of the kidney a certain amount of nitrogenous food can be satisfactorily dealt with but that an increase is followed by an excretion which is much more delayed than in health—that is, by retention for a longer or shorter period. The quantity which the kidney does excrete is about nine or ten grammes of nitrogen or about 60 grammes of proteid. This is about the same amount that we have seen a healthy adult has been shown to be able to subsist on, together with other foods. It is contained in one and a half litres of milk, or two and a half pints. When more proteid is given and retention occurs this is not necessarily followed by uræmia; neither, when uræmia occurs, has there necessarily been a preceding retention. Butler and French's figures show well that during a period of subacute uræmia the excretion of nitrogen in the urine may remain fairly constant, as compared with the periods before and after. On the nitrogen balance there was a greater excretion than intake, but this was no doubt due to the fact that the boy during the attack of subacute uræmia took so little food—less than half a litre of milk—that he was living partly upon his own tissues.

Baginsky came to the conclusion that the kidneys of children with albuminuria did not excrete nitrogen as well as did those of children in health. This is no doubt true, but the amounts given by Baginsky were excessive. In one case he gave a child of 21·8 kilogrammes 12·5 grammes of nitrogen, which is more than 0·5 gramme per kilogramme. We know that children take proportionately more food than adults, because their surface is relatively greater and also they have to grow, but with such figures as those above it is not surprising that there was a retention of 1·6 grammes of nitrogen. It follows that in treating these complaints this limitation of excretion must be recognised and that from both directions. The diet should not contain much more than 70 grammes of proteid, of which about 60 will probably be absorbed, and it is clear that it should not contain much less, for the minimum necessary for the needs of the body lies not far below this figure. Secondly, not only should the average proteid content of the diet be low but it should be constantly so from day to day. Thirdly, according to Rosenberg it is advantageous to withhold occasionally proteid almost entirely from the diet for a day or two.

Allowance must be made, as we shall see shortly, if there is loss by albuminuria of appreciable amounts of proteid. Gumlich in 1892 found the proportion of the urea in the urinary constituents was a normal one, from 83 to 87 per cent. In some cases with accumulating œdema the proportion was somewhat less, even down to 72 per cent. Butler and French estimated the urea as well as the total nitrogen and the albumin and found, excluding the albumin, an average of the nitrogen in the form rice, and ham formed part of the ration.[17] The foods were chopped and given in frequent meals. He found that the temperature was not harmfully affected. The danger of inanition, he concludes, is a much greater one than that produced by a mixed diet and gastric disturbances and vomiting are much less likely to occur than with the same foodstuff time after time. The observations of Puritz were made upon six soldiers, lasting from five to 29 days in each case. I have mentioned above the sufficiency of the diet in these cases; it amounted to at least 42 calories per kilogramme and often more. Proteid was in excess, nearly three grammes per kilogramme per day, the diet consisting of meat, bread, and milk, with tea, coffee, and port wine. He reports that no albuminuria or rise of temperature was caused by the diet and no complications, relapse, or lengthening of the fever period were observed, that the patients were comfortable, and that the convalescence was shorter.

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[24] [illegible], a Digest of Metabolism Experiments, p. 145, 1897; Prior, Ibid., p. 235, 1897; Müller, Ibid., p. 256, 1891; von Noorden and Ritter, Zeitschrift für Klinische Medicin, Sup. 1891; Mann, Ibid., 20, 107, 1892; Kornblum, Virchow's Archiv, 127, 409, 1892.

[25] Strauss, von Noorden and Ritter, Ascoli and Lied, p. 575: Lehrbuch der Pathologie des Stoffwechsels von Noorden, 1893.

[26] Transactions of the Pathological Society, vol. liii, 1902.

[27] Loc. cit.

[28] Johns Hopkins Reports, 10, I, 83, 1902.

[29] Loc. cit., 1891.

It is interesting to remember that it is possible that the changes in the tissue-lymph circulation described by Dr. George Oliver, the founder of these lectures, which follow a meal may possibly exert, both in disease and in health, a beneficial effect upon metabolism.

PULMONARY TUBERCULOSIS.

In pulmonary tuberculosis we are dealing with an infective process which may or may not be pyrexial. Suitable material must be furnished to the cells of the body (1) to enable them to provide energy for their usual needs; (2) to provide any extra energy they may require in opposing the bacillary growth and withstanding toxins; and (3) to replace any tissue which may be broken down by toxic action. In the pyrexial cases there is often in addition a want of appetite to deal with just as in the shorter fevers. In this condition the motor and secretory functions of the stomach have, nevertheless, been frequently found to be normal. With respect to the toxic breakdown we have seen that it occurs in other infections even without pyrexia. Duclaux[18] ascribes the loss of organic substance to the agency of a ferment-like substance of a tryptic nature derived from the bacillus. The wasting of pulmonary tuberculosis is not due to deficient absorption of food, for many analyses have shown that it is usually normal. For instance, in 1894 Blumenfeld and Spirig found that when from 84 to 168 grammes of fat were given in the form of butter and a mixture of olive oil and oleic acid assimilation was normal. Goodbody, Bardswell, and Chapman found that from 87 to 98 per cent. of the fat given in a mixed diet was utilised, a considerable quantity being given in the day, the averages in each period ranging from 123 to 231 grammes. Proteid is also well absorbed (Mitalesen, Mircoli and Soleri, Goodbody, Bardswell and Chapman, Ott, and older workers) except when a great excess is given, and so is carbohydrate.

Mircoli and Soleri[19] compared the needs of a phthisical patient with those of a normal man. The subject had lost 10 kilogrammes in a year and weighed 77 kilogrammes. The sputum contained a large number of bacilli. There was no pyrexia. A normal individual took a diet of 35 calories per kilogramme containing 14 grammes of nitrogen per day. But this did not suffice for the patient, who only maintained his weight and nitrogenous equilibrium when 50 calories per kilogramme were given and 29 grammes of nitrogen. Each was fed until he felt fully satisfied. He took then 30 per cent. more caloric value and 100 per cent. more proteid than the healthy man. They express the view that the excess of proteid is necessary owing to the direct action of the poison upon the tissues. On such a diet a little proteid was laid on Ott has also shown that even with complete rest a phthisical patient will not only lay on fat but tissue proteid.

I have already referred to a diet of 50 calories per kilogramme as one found essential to maintain equilibrium in a phthisical patient. Goodbody, Bardswell, and Chapman in their researches found that from 50 to 70 calories could be given with advantage. Taking the average, 60 calories, this comes to just over 4000 calories a day in a man of 68 kilogrammes. They found also, as we have seen in the case of normal metabolism, that an excessive diet is very much better borne by patients who are below their usual weight and that it must be relaxed when the weight has passed above the normal figure. If too much food be given, although some of it may be laid on for a time, intestinal and gastric disturbances set in, putrefaction takes place in the intestine to an excessive degree, as was shown by the more than doubling of aromatic sulphates in the urine, and distaste for food soon follows. It is interesting to note that a boy, aged 13 years, whose metabolism was investigated, took and assimilated 3500 calories per day; as his weight was 35 kilogrammes this is over 100 calories per kilogramme per day. A growing individual uses relatively more food, both on account of the growth and of the larger surface loss of heat relatively to mass, and also probably on account of greater activity. The amount of food taken per kilogramme by this boy approaches that used in the case of a woman undergoing a rest cure above referred to (Hale White and Spriggs) who was taking and assimilating well a diet of over 110 calories per kilogramme per day.

With regard to the constituents of the diet Goodbody, Bardswell, and Chapman recommend 120 grammes of proteid, 140 of fat, and 300 of carbohydrate as average figures for an adult. The amount of proteid here is moderate. In this respect we may ask ourselves whether in the light of the recent movement in the direction of diminishing proteid in ordinary diets we have sufficient evidence that such large quantities are necessary in phthisis, since extra work is thrown upon the digestive organs and the kidneys. I do not know whether careful experiments have been done in which the proteid has been replaced by a sufficient caloric equivalent of other food over a considerable period. That the output of nitrogen of the body can be diminished in tuberculosis as in health by carbohydrate and fat has been shown by Laufer, who found that sugar was much more efficient than an equivalent weight of fat and still more so if the caloric equivalents be given, as 94 grammes of sugar correspond to 50 of fat. A similar investigation was made by Bockarev (1893) who investigated the effect of adding malt extract to a liberal diet. From 50 to 100 grammes were given in milk daily. Dry malt extract contains 76 per cent. of maltose and 16 per cent. of dextrin. A teaspoonful containing four grammes gives about 16 calories and a tablespoonful 60 calories, almost as much as an egg.[20] Bockarev's figures show a slight proteid sparing effect such as is to be expected from the addition of a small amount of sugar to the food.

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[23] Practitioner, vol. lxxiv., p. 14, 1905.

Emerson. The period of observation was too short to give definite results, since in cases reported to have been benefited by this operation, results such as disappearance of albumin and casts have been delayed as long as a year. In a few weeks during which analyses were made the metabolism of nitrogen showed the usual features of subacute nephritis becoming chronic with oscillations of excretion. The patients reported that they felt much better and the excretion of albumin became less.

ELIMINATION OF NITROGEN BY THE SKIN.

Perspiration in health contains a small quantity of nitrogenous substances, of which over two-thirds is in the form of urea (Argutinsky). This quantity is increased by profuse sweating and as much as 0·76 gramme and even 1·36 grammes have been found in the day in a hot climate (Eijkmann, Java). Atwater found that the mean amount in 68 experiments with muscular work was 0·29 gramme of nitrogen. With conditions in which the proportion of urea and other non-proteid nitrogenous substances in the blood was increased we should expect that the quantity in the sweat would be larger. Strauss[37] has recently found that the proportion of nitrogenous substances which are neither proteid nor urea is greater in nephritic perspiration than in healthy blood serum and may, especially in uræmia, reach a similar value to that in the serum and serous effusions of nephritis. These observations strongly support the practice of producing sweating, as do actual metabolic experiments with baths of hot water or hot air.

BATHS.

Very many observations have been carried out as to the effect of baths upon metabolism in nephritis. Korkounov[38] found that the dropsy diminished and the weight with it. The diet was milk and for from three to five days two baths per day at 40° C. and of from 15 to 20 minutes' duration were given. At the same time nitrogen was retained in the body but an examination of the figures shows that this was probably because more milk was taken during the bath period, owing presumably to thirst induced by sweating. Evdomikov[39] found in acute parenchymatous nephritis that the absorption and excretion of nitrogen were definitely improved by sweating. This was induced by enclosing the subject in a rubber bag up to the neck. A blanket was wrapped round the bag and the sweating lasted from one and a half to two hours. Improvement also followed in a second case of nephritis and cirrhosis of the liver as regards absorption. Hot air baths lasting from 20 to 25 minutes from 40° to 60° C., on a mixed diet containing an excess of nitrogen (from 20 to 40 grammes) were also given by Garine in 1887 in two cases of acute interstitial nephritis. Here again the excretion of nitrogen was improved during the bath periods (five days) and for the five subsequent periods, during which analyses were carried out, as compared with five days before the baths.

WATER AND SODIUM CHLORIDE.

Since the constituents of urine are all dissolved the amount of water available is a matter of importance and it is desirable to get what information we can as to what quantities should be allowed.

We must remember that in kidney disease the blood usually contains a larger proportion of water than in health[40] but this appears to be due to poverty of proteid, while smaller molecules, such as salt ions and the non-proteid nitrogenous substances, of which urea forms from one-half to four-fifths, are usually increased.[41] Thus, since the osmotic pressure of a solution depends on the number of molecules and not upon their size such hydræmic blood may, and often does, have a greater osmotic value than normal blood. According to Strauss, to whom we owe much work upon this subject, there is a parallelism between the amount of these nitrogenous substances and the degree of œdema, though none is established with the quantity of urine excreted (Brunner) or with uræmia. Now it is clear that the accumulation of fluid in the tissues may be due to a loss of power of the excretion of water by the kidneys or to a retention of water by the tissues. In the former case the drinking of an extra quantity of water would lead to œdema and no increase in the urine. In the latter if water be held by the tissues owing to the osmotic pressure of these electrolytes and of the saline molecules, additional water taken would cause increased secretion of urine. Experiment shows that in the acute form of nephritis an addition of water increases the œdema usually and does not appear in the urine,[42] though some cases of nephritis after the infectious fevers with hæmaturia prove exceptions.

In parenchymatous nephritis many cases react to water by passing it in the urine. Only experiment can ascertain whether this be so or not in the individual instance. The presence of œdema seldom means inability on the part of the kidney to secrete more water. Hence, in the treatment of such cases when œdema supervenes it is desirable to add water to the daily diet and to find out whether it be excreted in the urine or not. If it be, this most valuable of all diuretics will enable a portion of the substances to be excreted, which by their osmotic pressure may be holding fluid in the tissues and causing the œdema. The experiments upon granular kidney with abundant urine show that additional water is usually excreted in the urine. But Kövesi and Rothschultz state the amount of solid constituents is not increased, that is, a more dilute urine is passed. Von Noorden has found that the granular kidney can secrete urine of a normal specific gravity if water be restricted, and he is an advocate of such restriction, holding that thirst arises from some undetermined cause, but that the satisfaction of it by drinking is harmful, especially to the vascular system.

We must remember, however, that the secretion of a dilute urine more nearly isotonic with the blood than normal urine involves less work on the part of the kidney cells.[43] Galleotti found that after the injection of sodium chloride into a dog the osmotic pressure of the blood was not normal for 46 hours and the work done by the kidney was exceedingly large, but that if the dog were given water to drink the same result was produced in half the time with half the expenditure of work. Again, in Bradford's experiments[44] when the total kidney tissue was much reduced, the animals secreted a large amount of dilute urine and, at the same time, the blood became more watery and contained more urea, a condition strikingly similar to that in granular kidney. The production of dilute urine in large quantity, therefore, in this disease is, as experiment would lead us to expect, the way in which solids can be removed from the blood with the least performance of work by the kidney. Indeed, Beddard's reference[45] to the experiments of Bradford and of Ribbert applies equally well to the case of granular kidney when he remarks that the "change in the character of the urine observed in these experiments is probably to be explained in the light of Galleotti's results as the effort of the reduced kidney substance to excrete the maximal amount of material with a minimal expenditure of energy." The fact that the granular kidney may be able to produce urine of a high specific gravity does not show that it is desirable to perform this experiment upon every case of the disease.

The harm which von Noorden supposes is done to the vascular system by dealing with large quantities of fluid is also somewhat problematical or its results would be more often seen in diabetes insipidus and mellitus, in which much more water is drunk and excreted than is usual in chronic disease of the kidney.

The metabolism of water in nephritis is closely connected with that of sodium chloride and many observers have ascribed the œdema and many of the symptoms of nephritis, including the terminal uræmia, to the non-elimination of salt. It is improbable in the light of many facts that the pathology is as simple as this, but from the point of view of treatment we may look at the metabolism of chlorides in this disease. The excretion of chlorides in nephritics may follow the normal course and be equal in amount to that taken in with the food. On the other hand, a large number of analyses have been made which show that this is frequently not so. Many conflicting results are probably due to the observations not having been sufficiently prolonged, for the excretion of chlorides often oscillates, and while for a time there may be less in the urine, later in the case the retention may be corrected by a larger excretion. Such oscillations are also characteristic of the excretion of water and nitrogen

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Ibid., 1904.

[38] A Digest of Metabolism Experiments, p. 273.

[39] 1897, Ibid., p. 153.

[40] Hoelgmann: Ergebnisse der Pathologie, viii., 1904.

[41] Lindemann, Hermann, Strauss, and Bickel. See Hoelgmann, loc. cit.

[42] Kövesi und Rothschultz, 1904; vide Lehrbuch der Pathologie des Stoffwechsels, von Noorden, 1906.

[43] Galleotti, vide Beddard: Recent Advances in Physiology, p. 717.

[44] Ibid., p. 72[illegible].

[45] Ibid., p. 722.

of urea of 83 per cent. and this average did not vary appreciably during an uræmic attack. There were individual variations of from 71 to 94 per cent., such as are found in normal urines. It is probable that the methods used to estimate urea may include other amides. Von Jaksch[30] states that in many diseases, including those of the kidneys and typhoid fever, from 20 to 25 per cent. of the total nitrogen in the urine may be present in the form of amido-acids or allantoin. Perhaps any accumulation of disintegration products prevents the tissues from being able to build up proteid from the amido substances formed during digestion or, on the other hand, from oxidising the products of break-down to urea as completely as usual. These variations in the amount of urea are not such as could be recognised by the ordinary hypobromite method and it follows that the testing of urine by this method to find the percentage of urea is fallacious as a guide to the excretive capacity of the kidney. Such a test is only valuable when the whole day's urine is collected and its content of nitrogen compared with that of the food. In nephritis patients are usually kept on a low diet and therefore they excrete but little urea. In ordinary cases, not upon a proteid rich diet, the nitrogen of the urine, together with that in the fæces, equals that in the food.

ALBUMINURIA.

Albumin in the urine is a direct loss to the body of material which could be used, just as is sugar in diabetes. The quantity of proteid lost in this way is usually small but if it be considerable may lead to a diet, which would otherwise suffice, being deficient in proteid. If we exclude from consideration acute nephritis or an acute process temporarily superimposed upon a chronic one, we may lay down as a rule that it is more important to feed the patient than to get rid of the albumin in the urine. Von Noorden gave a patient with albuminuria for three weeks a diet of milk containing 15·2 grammes of nitrogen; the patient remained in nitrogenous equilibrium, excreting 1·3 grammes per day as albumin and 1·9 in the fæces, therefore using 12 grammes per day. On reducing the nitrogen in the food to 10 grammes, keeping the caloric value (32 calories per kilogramme) and the quantity of fluid constant, 1·1 was lost as albumin and 2·5 in the fæces, leaving 6·3 to be used; on this diet 8·3 grammes was the daily average in the urine and so two grammes were lost daily, or 66 grammes of flesh. If sufficient food be given, with due regard to the dangers of excess which we have discussed, nitrogenous equilibrium may be maintained with large losses of albumin. I have mentioned from nine to ten grammes of nitrogen as being a desirable upper limit in the diet of a chronic nephritic, about 60 grammes of proteid. When the patient is constantly excreting a considerable quantity of albumin, proteid must be cautiously added to this, raising the maximum to from 85 to 90 grammes.

The estimation of the percentage of albumin in a single specimen of urine is liable to fallacy, for the amount of albumin is not constant during the 24 hours. Nevertheless, if the whole day's urine be collected and the albumin estimated daily variations in the percentage of albumin may form a valuable guide to the progress of the case, as Emerson has shown,[31] more so, indeed, than the total quantity in the 24 hours. The actual amount of albumin in chronic nephritis, if it be constant, though of use, as we have seen, in constructing the diet, is of little prognostic value. Emerson's experiments upon metabolism in albuminuria showed that as a case becomes chronic the percentage of albumin tends to become regular.

Important results have been obtained by metabolic experiments comparing the effect of the amount and nature of the diet upon the albuminuria. The proteid in the urine is, in the main, body proteid derived from the blood serum, as shown by precipitin tests. Food proteids, such as egg albumin, beef proteid, and lactalbumin, may be found in the urine when these foods are taken, but only in small quantities. If, as appears probable, the food proteids are completely broken down in the intestine to non-proteid substances, to be subsequently built up again into body proteid, we should only expect food proteid to occur in the urine when some of it had been absorbed in an undigested form from the alimentary canal.

The effect of food upon albuminuria.—The evidence goes to show that in granular kidney the nature of the food makes but little difference to the albuminuria, if its amount be regulated by the above principles, and no definite relation is found between the albumin and the food if the observations be carried on for fairly long periods. In acute nephritis and acute exacerbations of chronic nephritis this is not so. A rise in the amount of proteid given is usually followed by a rise in the albuminuria. Emerson's observations upon acute and subacute cases made over considerable periods with determinations of the total nitrogen metabolism are of interest. He found a parallelism between the percentage of albumin and the temperature, both tending to rise with an unsuitable diet or with an increase in the inflammatory process or with exercise. The third important symptom going with these is a diminution in the quantity of the urine. The nature of the food was of greater importance than its amount—for instance, the same percentage of albumin as before was excreted in a case of amyloid disease when the milk was reduced by half, but a sweatbread sent up both the percentage and the temperature. Perhaps the liver was also diseased in this case. Even starvation did not affect the albumin percentage to any degree. Raw eggs given with a milk diet sent up the albumin but this is an unfair test, for the same may occur in health from direct absorption. In severe parenchymatous nephritis the albumin was lowest with milk and rose when other articles were added. Milk alone has the disadvantage that a greater amount of proteid than necessary is given if more than from two to two and a half pints be taken by the patient. But cream or sugar or arrowroot may be added to this quantity without giving more nitrogen and thus the caloric value be raised.

Actual metabolism experiments as to the effect of different meats in chronic nephritis have been made by several observers. Prior[32] found that the addition of boiled eggs to the diet did not increase the albumin in the urine, neither did raw eggs when consumed with other food, but only if taken alone—i.e., under conditions which cause albuminuria in health. Offer and Rosenqvist[33] found no difference between red and white meat. Pabst's experiments[34] were not, strictly speaking, metabolism experiments, but he found that mutton, beef, veal, lamb, or fowl produced no effect on the microscopical characters of the urine as regards the number and nature of the casts present when compared with milk of the same proteid content. Kaufmann and Mohr investigated two cases of chronic parenchymatous nephritis and three of granular kidney. For five-day periods they gave a diet of 200 grammes of bread, 100 grammes of potatoes, 100 grammes of butter, 500 grammes of soup, and 325 grammes of either beef or veal to compare the effect of red or white meat. In each case there was slight loss of nitrogen but the albuminuria and the œdema were less with the beef. These periods were rather short and the proportion of nitrogenous food was too high, from 15 to 20 grammes of nitrogen appearing in the urine. In another case excreting from 12 to 13 grammes of nitrogen in the urine no difference in metabolism could be detected between diets of constant nitrogen and caloric content supplied by means of milk, beef, veal, and milk again in five-day periods, one after the other. In older experiments, such as those of Gregoriev,[35] similar observations with milk and meat lead us to no definite results, because the amount of nitrogen in the different diets varied and the caloric value was often too low.

DIURETICS.

Since the urea in the blood has been found to be increased both in nephritis and in uræmia and since we know that this substance is an excellent diuretic, one would suppose that the administration of diuretics other than water would not be likely to produce much effect. Diuretin was given in the course of Emerson's experiments and was followed by an increase in the urine, which was more dilute, though the total albumin in the urine in the 24 hours was increased. Grünwald[36] also reports that diuretin causes the excretion of a more dilute urine, with less albumin.

DECAPSULATION.

The metabolism of two patients before and after decapsulation for acute parenchymatous nephritis was observed by

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[30] Berliner Klinische Wochenschrift, 1902, 39, 1013.

[31] Emerson: Loc. cit.

[32] Prior, 1890, loc. cit.

[33] Berliner Klinische Wochenschrift, 1899.

[34] Ibid., 1900.

[35] A Digest of Metabolism Experiments, p. 249.

[36] Zeitschrift für Stoffwechsel und Verdauungs Krankheiten, 1906, p. 90.

A PAPER ON

THE PATHOGENY OF DIABETES.

Read before the Section of Medicine at the Fifteenth International Congress of Medicine at Lisbon, April 19th to 26th, 1906,

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BEFORE the pathogeny of diabetes mellitus can be satisfactorily dealt with it is requisite that we should have a right comprehension of the nature of the disease. Without a knowledge of the pathology of the disease, based upon a correct foundation, we cannot reasonably expect to be in a position profitably to enter into its pathogeny. For this reason it is necessary to give preliminary consideration to the conditions standing at the foundation of the disease. The outside features of the disease are conspicuous enough but the conditions existing within have been involved in much obscurity. Essentially the cardinal point presented is that carbohydrate which ought to pass to utilisation in the system flows off in the form of sugar with the urine. The reason of its doing so is obviously connected with faulty chemical action located in some part or other of the economy, and the great desideratum is a knowledge of the seat and nature of the error existing

Primarily, it may be asked, Whence comes the sugar that is found in the urine? Is it conveyed to the kidney in the blood and simply eliminated by the organ or is it formed within the kidney from some constituent of the blood that is circulating through it? Both sources appear, in different circumstances, to exist. Ordinarily, as in human diabetes, hyperglycæmia is antecedent to the glycosuria. The fault in this case lies with the abnormal presence of sugar in the circulatory system, the sugar flowing off with the urine in proportion to its existence in the blood. In phloridzin diabetes the sugar is evidently not derived from pre-existing free sugar in the blood; in other words, there is not the preliminary hyperglycæmia to give rise to the glycosuria. It seems as if through the influence of the phloridzin sugar is cleaved off from a constituent of the blood that contains it in a locked-up state whilst the blood is circulating through the kidney. Other instances present themselves in which it is evident that sugar is derivable from combined or locked-up sugar in the blood and the tissues. In human diabetes, as I have said, glycosuria is secondary to hyperglycæmia and the question is carried to the faulty action giving rise to the latter. There is a class of case in which the eliminated sugar is in a direct manner traceable to carbohydrate in the food ingested. Under the glycogenic theory it is considered that the carbohydrate of the food passes in the form of sugar through the circulatory system to the capillaries of the tissues, to be there oxidised and consumed, and the hyperglycæmia of diabetes is assigned either to an excessive influx into the circulation or to a deficient removal within the systemic capillaries. To this view of influx, transport, and removal I have contended there is the fatal objection that in proportion as sugar enters the circulation so it becomes manifest in the urine, its small molecular constitution leading to its escape with the urinary water in passing through the kidney. To keep sugar out of the urine it must be kept out of the general circulation, and this necessitates that the food carbohydrate should be dealt with by assimilation before the opportunity is afforded for its reaching the systemic blood. I have dwelt upon these matters in my recent work on "Carbohydrate Metabolism and Diabetes" (Churchill, London, 1906), and I there adduce evidence to show that at the seat of absorption in the alimentary canal the carbohydrate is assimilated by synthesis into proteid through the instrumentality of the lymphocytes of the villi, and by conversion into fat through the agency of the epithelial cells of the villi. The carbohydrate that may happen to escape being disposed of here, becomes conveyed as sugar by the portal vein to the liver, and checked in its further course by transmutation into glycogen. Thus the contents of the general circulation are guarded, as is noticeable in a state of health, against being influenced by the ingestion of carbohydrate food. Should the carbohydrate fail, as happens in diabetes, to be in this way assimilated it passes on as sugar into the general circulation and thence flows off with the urine. The difference, then, between health and "alimentary" diabetes is that in the one case carbohydrate is assimilated and prevented reaching the general circulation as sugar, whilst in the other it escapes being assimilated and, as a result, reaches the general circulation as sugar.

This brings us to the consideration of the operations concerned in the process of assimilation, as it is from their failure in being properly carried out that hyperglycæmia, and thence glycosuria, emanate. When assimilated by synthesis into proteid through the medium of the actively growing lymphocytes in the villi, the flow of which into the circulation constitutes the source of digestion lymphocytosis, sugar is put into a state to be free from liability of escape with the urine Locked up, probably as a side-chain, in a large molecule its retention within the confines of the circulation is secured, and at the same time it is in a position to be ready for detachment to meet the wants of the tissues just as happens in the case of oxygen as it exists in oxy-hæmoglobin. Synthesis or building up is now recognised as effected, like catalysis or breaking down, by the agency of enzyme action, and in this way the connexion of the pancreas with diabetes may be rationally explained. There is evidence to show that an internal secretion is derivable from the pancreas which is concerned in keeping the system exempt from the condition existing in diabetes. This internal secretion may be taken as probably contributing to the action that occurs in the construction of the bioplasm of the lymphocytes from the absorbed digestion products of the food. Enzymes, it has recently been learnt, are dual bodies, one portion being apparently of a proteid nature and losing its activity at the boiling temperature, whilst the other does not similarly lose the power belonging to it on being boiled. To the latter the name co-ferment or activator has been applied and it seems to hold an analogous position to the active agents that are obtained from the thyroid, suprarenal capsules, &c. The experiments detailed in my recently published work on "Carbohydrate Metabolism and Diabetes" already referred to point to a co-ferment-like body being yielded by the pancreas which aids in the synthetic process concerned in the linking on of sugar in the construction of proteid. Thus circumstanced, the pancreas, in relation to internal secretion, presents an alliance as regards its mode of action to the glandular structures that have been named. Under the view that has been outlined the connexion of the pancreas with diabetes is rendered intelligible. In the absence of the internal secretion, as after extirpation and in association with disease, the non-existence of the co-ferment concerned in the building up of carbohydrate into proteid would lead to failure of carbohydrate assimilation, and thence give rise to the condition met with in diabetes. What I have spoken of only touches defective assimilation through absence of proper enzymic power. Whether or not the linking on operation in the construction of proteid in the villi is related to that concerned in the production of glycogen in the liver it is impossible to say, but, as a matter of fact, the latter is as much the result of a building-up process as the former and it is possible in both instances that the issue may be brought about by the same instrumentality.

Another source of sugar in connexion with diabetes is the breaking down of complex molecules into which the sugar molecule has previously entered. Evidence is afforded of the occurrence of this phenomenon in advanced cases of diabetes where the power no longer exists of preventing the elimination of sugar by restriction from carbohydrate food. In these cases there is more or less active wasting and it may be assumed that through the influence of an abnormal enzymic agency there is a wrong katabolism or tissue disintegration proceeding which is attended with the liberation of sugar. It is in this class of case that other products of wrong retrograde metamorphosis present themselves to view—namely, β-oxybutyric and diacetic acids, and acetone. When the condition alluded to exists there is a two-fold source, of a contrasting nature, for the sugar. In the one the sugar met with is the issue of a defective anabolism or molecular building up and in the other, an abnormal katabolism or breaking down of molecules into which carbohydrate has been previously incorporated. The former corresponds with the "alimentary" form of the disease, the latter with the grave, or the "composite" form as I have styled it on account of both conditions existing together.

The point to be now considered is the question of in kidney disease, and the excretion of salt is usually, but not always, parallel to that of nitrogen. This variation explains those instances in which more chlorides appear in the urine than were in the food, as in a case observed by Halpern in which in 16 days the excess of chlorides in the urine was 208·69 grammes. A similar phenomenon is the delay in the excretion of added salt. A healthy individual excretes an extra dose of salt in from 28 to 48 hours, while in kidney disease the whole of the salt may not appear for some days. This is similar to what we have seen in the case of the nitrogenous substances.

Most striking are the cases with definite retention of salt, associated with œdema. This condition is usually found in acute nephritis and severe chronic parenchymatous cases, not so commonly in cases of granular kidney, except during exacerbations of a superimposed acute or subacute process, and also when the heart is failing. In cases of one-sided disease less salt has been found in the urine from the affected kidney. The two kidneys, however, do not always excrete the same amount of salts in health. The quantity of sodium chloride in the urine in 24 hours may be less than one gramme and Bing[46] has reported two cases of achloruria, in which hypersecretion in the stomach occurred, with vomiting of salt and water, a condition which he designates as one of chronic sodium chloride poisoning. This would certainly suggest failure of excretion. Apart from diarrhœa no increase in the fæces accompanies diminished excretion in the urine. The retention of chlorides is connected with œdema, and in some instances this relation is very marked. Diminishing the amount of food has been found to be followed by less œdema, while adding salt again is accompanied by increase of the fluids retained (Javal and Widal). A similar phenomenon is observed when sodium bicarbonate is given in large doses in diabetes. While such cases are very striking we can hardly suppose that salt is the only sinning material, but may regard it as an electrolyte whose accumulation in the tissues is accompanied by fluid as a natural result of the osmotic pressure of the salt. Maries regards the tissues as the element holding the salt, either in a free condition when fluid is attracted or combined with the protoplasm as fixed salt, a hypothesis which would account for the observations of salt retention without œdema. The fact that the chlorides are reported to be present in greater quantity in œdema fluid than in blood serum is perhaps in favour of Maries' view that the tissues attract and hold the salt, but whether this be so or whether the kidney cannot excrete it, it is important to know what indications for treatment have been afforded by the workers in this field.

It has been shown that in cases of retention if the salt in the food be diminished the body soon comes into salt equilibrium.[47] About from two to six grammes a day may be allowed. There need be no fear of doing harm, for a normal individual can subsist on this amount without losing more than the intake in the urine. With this small quantity of salt the œdema and the general condition of the patient improve. Since salt in the tissues attracts water by withdrawing it from the food we are practically giving the patient water. We may also conclude that in ordinary cases of granular kidney which are doing well there is no need to reduce the salt below a moderate amount, but that this should be done when any signs of an exacerbation present themselves.

In conclusion, Mr. President and Fellows, I may express the hope that further research upon the processes of nutrition in disease may be ardently prosecuted in this country. Only by fuller knowledge can the art of healing be advanced. It is important to remember that the information acquired by means of experimental investigations must be combined with the wisdom of clinical experience and that the means employed for the relief of illness must be adapted to the bodily state and to the circumstances of the individual. I cannot do better in this connexion than read to you the words of Bacon: "Physicians are some of them so pleasing and conformable to the humour of the patient, as they press not the true cure of the disease; and some other are so regular in proceeding according to art for the disease, as they respect not sufficiently the condition of the patient. Take one of a middle temper; or if it may not be found in one man, combine two of either sort ...."

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ERRATA.—For "calorie" read *Calorie*, or *large calorie*, o *kilocalorie*. In Lecture I., p. 1154, second column, fifth line from the bottom, for "alcohol" read *proteid*; p. 1155, first column, line 34 from the bottom, for "(hard work)" read (*not* hard work); p. 1156, footnote 7, for "Rec. Adv." read *Recent Advances in Physiology and Biochemistry*; p. 1158, footnote 19, *add vol. vi., p. 251, 1902*; p. 1158, footnote 23, for "D.M.E." read *A Digest of Metabolism Experiments*. The errors were due to the proofs not having been returned in time.

UNIVERSITY OF OXFORD.—An examination for the diploma in anthropology will be held in Trinity term on Tuesday, June 12th, and the following days.—The board of the Faculty of Medicine gives notice that certain alterations in the regulations for the examination in preventive medicine will come into force in November, 1906. The amended regulations are published in the *University Gazette* of April 24th, 1906.

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[46] Zentralblatt für Stoffwechsels und Verdauungs-Krankheiten. 1906, S. 90.

[47] Claus, Plant, Beach. 1905. Vide Lehrbuch der Pathologie des Stoffwechsels, von Noorden, 1906.

insipidus may be regarded as the result of a persistent vaso-dilatation, implicating specially the renal vascular area. If this area alone, as is usually the case, is affected no sugar is found in the urine, but it sometimes happens that a mixed condition of diabetes insipidus and mellitus exists—in other words, that an excessive amount of urine of low specific gravity is passed containing a limited amount of sugar. In these cases I consider the vaso-dilatation is not restricted to the kidney, but also implicates, to a greater or less extent, the vessels of the chylopoietic viscera. My experience has supplied me with an instance where the patient for a time was the subject of well-marked diabetes mellitus which subsequently completely disappeared, and was some time later followed by pronounced diabetes insipidus. It is common in diabetes insipidus, as in diabetes mellitus, to meet with an associated neurotic disposition. Exophthalmic goitre, in my opinion, may be referred to as affording an instance of a disease connected with a local vaso-dilatation. After the disease is established the altered secretion of the thyroid may produce ill effects upon the system; but primarily, it seems to me, a vaso-dilatation of a particular area constitutes the condition to be dealt with. It is well known that this disease is associated with the neurotic disposition, and I believe it to be essentially a neurosis affecting a particular part of the vaso-motor system. It sets in from mental shock, &c., like other neurotic diseases, and subsequently pursues the same kind of course. Not infrequently more or less glycosuria is present. In these circumstances I should consider that the vaso-motor abnormality involves to a greater or less extent the vessels belonging to the chylopoietic viscera.

Grosvenor street, W.

ON THE

ACTION OF VENOMS OF DIFFERENT SPECIES OF POISONOUS SNAKES ON THE NERVOUS SYSTEM.

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V.—VENOM OF COMMON KRAIT (BUNGARUS CŒRULEUS).

IN continuation of our previous papers on the above subject[1] we have now to take up a fourth venom—namely, that of the common krait (bungarus cœruleus). This snake, one of the common poisonous snakes of India, is of small size. Its venom is, however, of much greater toxicity than that of the cobra—in fact, than that of any other terrestrial Indian species. When tested subcutaneously on rabbits it is found that the minimum lethal dose of bungarus cœruleus venom is at least a third that of cobra poison. This much greater toxicity of the poison compensates for the small amount which on account of the small size of the snake is injected at each bite. There can be no doubt that this snake is responsible for a great number of the fatalities from snake-bite, especially in the northern portion of India, where the species abounds. The venom is extremely difficult to procure, as even experienced snake-catchers handle this agile reptile with a considerable amount of reluctance. It is for this reason, and for this reason only, that the amount of work which has been done on the physiological action of bungarus cœruleus poison is very small. In fact, we can find in the literature mention of the subject only in two papers—one by Rogers,[2] and the other by Elliot, Sillar, and Carmichael,[3] working in Sir T. R. Fraser's laboratory.

While Rogers came to the conclusion that the symptoms following poisoning by this venom are identical with those following poisoning by cobra venom, the results got by the last-mentioned workers "seem to indicate that while these symptoms are similar, still they differ so much in relative degree as to render it doubtful if they can in future be spoken of as identical." No particulars, however, so far as symptoms are concerned, are given by these observers as to how this relative difference is to be determined. Our experience after many experiments on monkeys and rabbits has convinced us that even a trained observer without physiological instruments could not tell the difference between the symptoms of cobra venom intoxication and those seen in cases of poisoning with the venom of the common krait. Differences in physiological actions are to be observed but these differences are not, in our opinion, apparent in the symptoms which are observed after the injection of the poisons. It is therefore unnecessary for us again to detail these symptoms, an account of which has already been given in connexion with cobra venom in our first communication. We need only mention that paralysis, beginning in the skeletal muscles and gradually involving the muscles of respiration, is the most prominent symptom, and the symptom which dwarfs those that might arise from any action which the poison might have on the circulatory apparatus. From observations of the symptoms alone one would at once conclude that death in krait poisoning was due to failure of the respiratory mechanism.

If the poison is injected intravenously in sufficient amount very rapid death takes place but no intravascular thrombosis can be demonstrated. Further, in the more chronic cases there is no diminution of the blood coagulability. We have also been unable to show any action of the venom whatever *in vitro* on citrate or oxalate blood plasma. As one of us[4] has already dealt with the action of this venom on the red blood corpuscles we need not further enter into that question. As regards its action on the heart and circulatory apparatus some interesting observations have been made by Elliot, Sillar, and Carmichael. They show that this venom has a decided action on the circulatory apparatus in general, which action is to a certain extent similar to that of cobra venom. It may be said to be similar to cobra venom in its action on the heart muscle or its nerve end mechanism, in its cardio-inhibitory action, and in its direct action on the arterial muscle or its nerve end mechanism. These actions are, however, much more feeble than the corresponding actions of cobra venom. In addition to these effects krait venom has another and important action on the circulatory apparatus which is wanting in the case of cobra poison. An injection of the poison is followed by a well-marked fall of blood pressure, which fall is due to a dilatation of the smaller arteries throughout the body and is probably of central origin—in other words, a paralysis of the vaso-motor centre.

With this brief introduction, which really embodies all that is known about the physiological action of bungarus cœruleus venom, we may now pass on to detail the observations which we have made with a view of ascertaining if any histological changes could be demonstrated in the nervous system of animals intoxicated with this venom. We have examined the nervous systems of four monkeys dead at different intervals after the injection of the poison and also the central nervous system of a man who died a few hours after being bitten by a krait. The following are the details of the monkeys.

Animal.		Weight in grammes	Dose of venom in milligrammes per kilogramme.	Time before death.
Monkey No	31	2730	0·01	16½ hours.
,,	32	2620	0·025	12 ,,
,,	33	2590	0·05	10 ,,
,,	34	2560	0·08	4½ ,,

The tissues from the first three, Nos. 31, 32, and 33, were fixed in perchloride of mercury; those from No. 34 in formol. Sections from all were stained (1) with thionin according to Nissl's method, and (2) with hæmatoxylin and eosin. Portions of the central and peripheral nervous systems in all of them were also fixed and stained according to Busch's method.

Monkey No. 31, weight 2730 grammes, died in 16½ hours what gives rise to these wrong chemical procedures, resulting in the abnormal presence of sugar. The association of the pancreas with diabetes I have already dealt with, and have suggested that it may be explained by the proper enzyme influence for determining normal metabolism in relation to carbohydrate being missing as a result of the absence of the internal secretion of the organ. Here, the pathogeny of the condition, under the view enunciated, has a foundation of a simple and direct nature. Little or no doubt, I consider, can be entertained that the nervous system plays an important part in connexion with the pathogeny of diabetes. The production of glycosuria in Bernard's celebrated puncture of the medulla oblongata experiment affords a conclusive illustration of nerve connexion with glycosuria and the vaso-motor system of nerves may reasonably be considered to constitute the medium through which the effect is produced. It has been observed that vaso-motor paralysis, implicating the vessels of the chylopoietic viscera, follows the *piqûre* operation. Lesions of certain parts of the sympathetic system of the neck, as I many years ago pointed out, produce, like *piqûre*, glycosuria. They also lead to the same kind of vaso-dilatation. Obviously with this paralytic vaso-motor condition the circumstances as regards the blood in relation to the liver must be materially altered. The volume of blood and rate of transit must be much increased and, at the same time, its character must be modified. Observation upon the ear of a rabbit, where the cervical sympathetic has been divided, tells us that the blood passes through the capillaries in such volume and with such velocity as to escape being brought into the ordinary venous condition. The veins are seen to be filled with semi-arterial instead of proper venous blood. In these circumstances, vaso-motor paralysis of the chylopoietic area must have the effect of placing the blood in the portal vein in a semi-arterial condition and experiment has shown that the passage of blood of this nature through the liver leads to the production of glycosuria. Apparently the altered state of blood affects the surroundings of the glycogen in such a manner as to lead to its abnormal transformation into sugar. The increased velocity of the blood arising from the vaso-motor paralysis may further contribute to disturbing the natural course of action, alike at the seat of absorption and in the liver. Thus, purely through an altered state of the blood-vessels, induced by an influence emanating from the nervous system, the source of production of the sugar abnormality belonging to diabetes may arise. Support is given to the view that has been submitted by the information supplied through the medium of the vascular condition of the tongue in connexion with diabetes. In many cases of diabetes nothing special is observable in relation to this point. In others, however, a strikingly red appearance is presented. The surface is clean and of a more or less bright red colour, giving a resemblance to a piece of raw meat. The organ is in a hyperæmic state, for the production of which it is evident that local arterial dilatation must exist. This may be regarded as the specially characteristic tongue of diabetes and the condition is not of unfrequent occurrence. The point of importance connected with it is that its most highly marked form is associated with the worst cases of diabetes. Ordinarily speaking, it may be taken as an indication of severity of disease. In the worst and most acute case of diabetes that I think has ever fallen under my observation not only the tongue but the whole of the interior of the mouth was in an intensely hyperæmic condition. A fact of much interest remains to be,mentioned. It is, that as improvement under treatment occurs in the diabetic state a more or less marked reduction of the redness of the tongue is, as a rule, found to occur.

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[1] THE LANCET, Jan. 2nd (p. 20), August 20th (p. 518), and Oct. 22nd (p. 1145), 1904 and Sept. 23rd (p. 833), 1905.

[2] Philosophical Transactions of the Royal Society of London, Series B, vol. clxxix., pp. 123-91.

[3] Ibid., pp. 327-45.

[4] Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India, New Series, No. 17.

I have spoken of vaso-motor paralysis implicating the chylopoietic viscera as probably constituting one source, if not the main source, of diabetes. The tongue belongs to a portion of the alimentary tract and thus may be looked upon as being connected with the chylopoietic system. Holding this position, it seems to me that what is clinically observable in connexion with the tongue may be regarded as having a reconcilable footing. The question resolves itself into extent of area of vascular implication. The tongue may or may not be involved, according to the particular circumstances existing, and it is not surprising that it should be involved in cases of the highest intensity. For many years my attention has been fixed upon the point to which I have been alluding, and I feel satisfied that the particular character of the tongue referred to has a direct bearing in connexion with diabetes. I do not state that the tongue is necessarily involved in all severe cases, nor do I state that the case is necessarily severe because the tongue is seen to be hyperæmic. I conceive that through the incidental circumstances belonging to the case the vessels of the tongue may or may not fall within the area of vaso-motor paralysis. I need scarcely say that the hyperæmic state may be found apart from diabetes, and with reference to these cases I can state that in more than one instance I have noticed sugar occasionally present to a slight extent in the urine to which, through the promptings aroused by the state of the tongue, special attention has been given.

A hyper-oxygenated state of the blood can be produced through the medium of respiration and the effect is confirmatory of what has been stated with regard to the production of glycosuria by defective de-arterialised blood. In my writings I have recorded experiments where marked glycosuria was observed as a result of the inhalation of oxygen. It happens, however, with this mode of experimenting that hyper-oxygenation of the blood is not always obtainable on account of the natural tendency of the respiratory movements to adapt themselves to the increased oxygenating efficiency of the agent employed. In other experiments recourse was had to a pumping arrangement, whereby inflation of the chest could be induced at any desired frequency, and thus, even with the employment of air, hyper-oxygenation of the blood could be effected. Here also glycosuria proved to be susceptible of being produced. Hence, simply through an alteration of the condition of the blood in relation to its oxygen, metabolism may be deranged and glycosuria induced. The arteries fall into connexion with the matter through the medium of the governing effect of their muscular coat on the flow of blood through the capillaries and in the train of further connexion the muscular coat of the arteries is under the controlling influence of the nervous system. Thus the nervous system is brought into relation with metabolism through the intervention of the capillary circulation in the particular vascular area concerned.

I think it may be taken to be by general consent admitted that the nervous system is involved in the pathogeny of diabetes. Such an array of evidence from all sides can be adduced as to leave no doubt that cerebral action is intimately related, as an influencing factor, to the disease. It is in connexion with the neuropathic disposition that it is most frequently found to exist and the more sensitive and highly strung the nerve organisation the more intense is the form that the disease assumes. A cerebral influence over the vaso-motor state is what is suggested as constituting the link between brain and diabetes. We know comparatively but little at present of the physiology of the vaso-motor system of nerves through which cerebro-spinal influence upon vessels is exerted. The fact that such influence is in constant operation is sufficiently evident from the incessant vascular changes from mental and emotional states that are taking place. Certain parts of the grey matter of the brain appear to be in touch with blood-vessel areas and it is submitted that the nerve filaments of the sympathetic system are not only connected with the spinal cord and medulla oblongata but with spots at the surface of the brain which stand in the position of cerebral vaso-motor centres. Upon these grounds a chain of connexion becomes established rendering it possible for diabetes to constitute a disease belonging to the neurosis class, the difference in its cas being the implication of a particular area belongin to the vaso-motor system instead of structures connecte with voluntary motion, sensation, and the mind. There i ample evidence of different kinds to show that cerebral state are capable of producing a marked influence upon the condition of the circulation in particular areas and the mor sensitive the person the greater is the susceptibility to th occurrence of the manifestation of the influence. Th flushing of the face from an emotional cause affords a goo illustration of the point in question. The watering of th mouth as a result of a passing thought in connexion wit food supplies another, for an altered vascular state of th salivary glands may be considered to stand at the foundatio of the flow of saliva that takes place. The kidney is a organ which is frequently giving evidence of the influenc of cerebral action upon a particular vascular area. Neuroti polyuria is an effect of common occurrence in associatio with different cerebral conditions. I consider diabete admission to hospital the patient was semi-comatose and complained of difficulty in breathing and later of a burning sensation in his left hand and arm. Breathing became more and more embarrassed and ultimately ceased about 6 A.M. two hours after admission to hospital. A small puncture was found on the inside of the ring finger of the left hand.

The post-mortem examination was made four hours after death. The brain and spinal cord, the only tissues examined, were fixed in formol. The snake was found dead in the morning. It was identified as a bungarus cœruleus. Sections from the cerebral and cerebellar cortices, from the pons, the medulla, and the cord were stained with (1) thionin, (2) hæmatoxylin and eosin, and (3) with Busch's fluid. The cortical cells did not stain well, probably due to a fault of fixing, so that nothing definite can be said in regard to them. But the motor ganglion cells throughout the pons, the medulla, and the cord were practically normal. They stained possibly more intensely than normal and some of them too diffusely, but no fragmentation or disappearance of the Nissl granules was to be seen such as was met with in the motor ganglion cells of the first three monkeys. The cells of the tenth (motor) nucleus were equally normal with those of the seventh and twelfth nuclei. With Busch's stain no degenerate fibres were detected.

We have said that the symptoms produced by the venom of bungarus cœruleus are about identical with those on injecting cobra venom, and we may now add that the histological changes in the nervous system in the former intoxication are in general similar to those that we have already described as characteristic of the latter. With bungarus cœruleus venom, however, the chromatolysis seemed less acute, for after ten hours, as in monkey No. 33, though the signs of degeneration were undoubted, they were not so far advanced as with cobra venom after six hours. There were not so much vacuolation and breaking up of the cell generally. In monkey No. 34, too, the appearances were practically normal, showing that with bungarus cœruleus venom more than four and a half hours must elapse before definite signs of degeneration show themselves. We have already noted that the chromatolytic process in the individual cells seemed less acute than with cobra venom, for there was evidence in certain cells of a definite fragmentation of the Nissl granules and of the process being, to begin with, perinuclear and extending thence towards the periphery. This venom, like cobra venom, seems widespread in its action. But in comparing the ganglion cells at various levels of the central nervous system in these four monkeys it seemed as if it was also somewhat selective. In the cord the degenerative process seemed more advanced in the dorsal than in either the cervical or lumbo-sacral regions. And taken as a whole the cells of the anterior horns of the cord were more affected than those of the cranial nuclei (excepting the nucleus ambiguus). The process was uniformly most advanced in the cells of the reticular formation, excluding the nucleus lateralis, which nucleus seemed little more affected than the twelfth nucleus. The cells of the cortex were about equally affected with those of the bulbar nuclei. But while in a measure selective, this bungarus cœruleus venom is too widespread in its action to draw any definite conclusions from the histological examination in regard to any special action it may have on the centres in the medulla. All we can say is, that the more mesial cells of the reticular formation, which probably contain the respiratory centre, are most affected; and that the lateral nucleus cells, in which, we take it, lies the vaso-motor centre, are much less affected—not much more than the twelfth nucleus, which in turn is less affected than almost any other motor ganglion cells throughout the whole nervous system. This venom would also seem to have a widespread action on nerve fibres as well as on ganglion cells. Monkey No. 32 shows this well, for in this animal the intra medullary fibres as well as those in the peripheral nerves were examined by means of Donaggio's stain. There was no definite breaking up of myelin or axis-cylinders but the outline of both was in many places altered and both retained the stain much more tenaciously than do normal fibres. The staining was not so intense, however, as with cobra venom, for with this poison the axis-cylinders stained much more deeply even after a considerably longer period in the decolourising fluid. Indeed, it was with difficulty that one could decolourise the axis-cylinders in cobra poisoning. If this intensity of staining is an indication of the extent of the change in the axis-cylinders (and we take it that this is Donaggio's view) then the action of cobra venom on axis-cylinders is much more marked than that of bungarus cœruleus venom.

As to the human case which we have recorded, the examination of the central nervous system was negative. This may be due to death taking place too quickly for histological changes to develop. We have seen that in the monkeys not less than four and a half hours appear to be necessary before changes show themselves. In the human subject the ganglion cells are probably more stable, and this period is therefore probably somewhat longer. We do not know how long the man lived after being bitten, but it was almost certainly not less than three hours and probably from six to eight hours. It is doubtful if sufficient time had elapsed for degenerative changes to show themselves in the ganglion cells.

22 FATALITIES WHICH HAVE OCCURRED UNDER ETHYL CHLORIDE.

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SOME three years have elapsed since ethyl chloride came into general use in this country and it recently occurred to me that it would be both interesting and profitable to collect as far as possible all the fatal cases which have occurred up the present time. Naturally this has been no easy matter, but up to the time of writing it has been possible to collect 22 fatal cases, in regard to some of which very complete details are available.[1] It cannot be supposed that the list is in any way a complete one, for there is perhaps a not unnatural reluctance on the part of every medical man to shrink from the publication of any cases in which he has been unfortunate or has made an error in judgment; and though a death from an anæsthetic is by no means necessarily due to want of skill on the part of the administrator, still there is a widespread impression that the less there is said about such unhappy events the better for all concerned.

At the present moment it might be said with some truth that all the profession (and I include the sister profession of dental surgery), like ancient Gaul, is divided into three parts. We may roughly divide it into (1) those members who use ethyl chloride with some discrimination and intelligence and deprecate its routine employment in the place of the very much safer nitrous oxide; (2) those who employ ethyl chloride with more enthusiasm than discretion; and (3) those who do not use it at all but, with a conservatism more remarkable than to be admired, faithfully adhere to chloroform when any anæsthesia, however brief, is indicated. It is to be hoped that the publication of the following series of fatalities may confirm the first class in their position but make it plain at the same time to the second that ethyl chloride is not a substance to recommend offhand to anyone who comes into the surgery, but requires for its safe administration discrimination, caution, and skill.

CASE 1. *Lotheissen's case* (at Innsbruck).—The patient was a very strongly built man with an alcoholic history. After the narcosis had been maintained for about three minutes he became very cyanosed. Some fresh ethyl chloride had just been added as there was a tendency to struggle on his part. The corneal reflex had disappeared and the respiratory muscles were in a state of spasm; the patient's face was markedly cyanosed, and the pulse could not be counted at the wrist. Finally the heart ceased to beat altogether. It was estimated that five cubic centimetres of ethyl chloride had been inhaled. The form of inhaler employed was the semi-open mask of Breuer. At the necropsy some eccentric hypertrophy of the heart was noticed with fatty degeneration, the coronary arteries were in an atheromatous condition, and the blood was cherry-coloured, as seen in cases of carbon monoxide poisoning.

CASE 2. *Bossart's case.*—The patient, a child, aged 12 months, required a tracheotomy for the relief of stenosis of the air passages caused by diphtheria. Three cubic centimetres of ethyl chloride were administered; the after subcutaneous injection of 0·01 milligramme per kilogramme of bungarus cœruleus venom. In the anterior horns of the cord not a normal ganglion cell was to be seen, though various stages of the degenerative process were represented. The majority of the cells were skeletons, quite well stained, but with no granulation whatever; some were vacuolated. The more central and internal cells seemed most affected and many of these were mere shadows (ghost cells). In the cervical and lumbo-sacral enlargements some three or four cells were to be seen in the lateral groups of each horn rather too diffusely stained and with the remains of Nissl granules still present. These granules were mostly confined to the periphery of the cell, the perinuclear area being most often devoid of granulation. In most of the cells the nucleus was central, but in many of them it was diffusely stained and this we take to be "homogeneous degeneration" of the nucleus. The degenerative process generally seemed rather less marked in the cervical and lumbo-sacral enlargements than in the upper cervical and dorsal regions of the cord. And comparing the appearances with those of cobra venom poisoning there is the suggestion that here we have a less acute degenerative process going on. With cobra venom the degeneration seemed to affect the whole of the Nissl granules in the cell at the same time, the granules seeming to disappear as if they were being dissolved out. Here, however, with bungarus cœruleus venom certain of the cells suggest that the degenerative process is to begin with perinuclear, extending thence towards the periphery of the cell. In the medulla and pons changes were to be found similar to those in the cord and not one normal cell could be found. In the twelfth nucleus most of the ganglion cells were deeply and some rather diffusely stained. Some again had the remains of their Nissl granules still present; the remaining cells were skeletons, quite devoid of granulation. In the lateral nucleus the changes were similar to those in the twelfth nucleus. But the remaining cells of the reticular formation were much paler, many of them mere "ghosts," and suggested a still more advanced stage of degeneration. The cells in the seventh, sixth, fifth (motor), and third nuclei were similar in appearance to those of the twelfth nucleus. In the ganglion cells of the cortex the changes were similar to those described in the cord. In some cells there were fragmented granules at the peripheral with a homogeneous perinuclear area and in others very definite vacuolation. There were also undoubted degenerative changes in the ganglion cells of the cerebellum. With Busch's stain there was no appearance of degenerative fibres in the cerebrum, cerebellum, or cord.

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[1] Since then a further fatality has, I believe, occurred at Guy's Hospital.

Monkey No. 32, weight 2620 grammes, died in 12 hours after subcutaneous injection of 0·025 milligramme per kilogramme of bungarus cœruleus venom. In this animal the microscopic appearances were very similar to those of monkey No. 31. In the cord there was possibly a slightly larger proportion of cells with diffuse staining of the plasma and in the lateral groups of the anterior horns in the cervical and lumbo-sacral enlargements a few cells were to be seen with their Nissl bodies still present and but little fragmented. In other cells vacuolation was very evident. But the majority of the ganglion cells in the anterior horns were best described as deeply stained skeletons quite devoid of granulation. In the medulla the more internal groups of ganglion cells of the reticular formation were here also almost all ghost-like and much broken up. But in marked contrast were the cells of the twelfth nucleus which were deeply and rather diffusely stained and many of them with some granulation still present. In the cells of the lateral nucleus the degeneration was more marked than in the twelfth nucleus but much less so than in the other cells of the reticular formation. The appearances in the seventh, sixth, and third nuclei were like those in the twelfth nucleus. In the cerebral cortex most of the smaller cells were pale and without granulation. The larger cells were much more deeply stained, some diffusely stained, and most of them still contained some granulation, though in many it was limited to the periphery of the cell, the perinuclear area being devoid of granules. In the cerebellum the cells of Purkinje were similar to those in monkey No. 31. They were diffusely and deeply stained, with no proper differentiation of their chromatic granules. With Busch's stain there was no appearance of degeneration in the fibres of the cortex or cord. But on staining the cord (longitudinal as well as transverse sections) according to Donaggio's method, there was no doubt as to the large proportion of fibres that showed signs of an early degeneration. There was but little swelling of the axis-cylinders, though many were tortuous in their course and retained the stain much better than in normal fibres. The myelin in places was ill differentiated from the axis-cylinder, its outline was not well defined, and it also stained more deeply than normal.

Monkey No. 33, weight 2690 grammes, died in ten hours after subcutaneous injection of 0·05 milligramme per kilogramme of bungarus cœruleus venom. In the cord most of the central cells and a proportion of the lateral cells were pale and without granulation. The rest of the cells in the lateral groups were rather deeply and diffusely stained, some with the granules a good deal fragmented but a proportion with their granules still intact. The process seemed most advanced in the dorsal region where cells with vacuolation were to be seen. In this dorsal region some slight capillary hæmorrhages into the grey matter were present. In the medulla the cells of the twelfth nucleus seemed practically normal. Those of the lateral nucleus stained too diffusely and they were somewhat deficient in granules. The other cells of the reticular formation (including the tenth motor) were pale and almost devoid of granulation. The cells of the seventh and third nuclei seemed like those of the twelfth—almost normal. The larger cells of the cortex were but little changed. They were possibly rather deeply stained and their granules were therefore not so sharply defined as they should be, but no definite fragmentation was to be made out. With Busch's stain there was no appearance of degenerate fibres in the cerebrum, cerebellum, or cord.

Monkey No. 34, weight 2560 grammes, died in four and a half hours after subcutaneous injection of 0·08 milligramme per kilogramme of bungarus cœruleus venom. In this animal there were but few signs of the degenerative process seen in the three former cases. In the anterior horns of the cord the more internal cells were pale, with some deficiency in their granulation, but the cells of the lateral groups were practically normal. They possibly stained rather deeply and diffusely but in almost all of them the Nissl granules were consistent and fairly well defined. The appearances in the medulla and cortex were as in the cord. With Busch's stain there was no reaction for degenerate fibres in the cord, cerebrum, or cerebellum.

The peripheral nerves examined in these four monkeys were right and left vagi, right and left medians, and right and left posterior tibials. They were stained by the methods of (1) Busch, (2) Donaggio, (3) with hæmatoxylin, and (4) in monkeys Nos. 32 and 34, with Congo red (for axis-cylinders). The nerve terminals were also examined, having been fixed and stained in osmic acid and teased out in xylol. With Busch's method no unequivocal reaction of degeneration was obtained, but Donaggio's stain showed undoubted signs of an early degeneration. In a large proportion of the fibres the axis-cylinders and myelin were irregular in outline, they seemed to run into each other in places, and they stained much more deeply than normal fibres. With Congo red slight swellings of the axis-cylinders were also to be made out, rather more marked in monkey No. 32 than in No 34. No definite increase in the internodal nuclei could be seen.

As to the nerve terminals, the changes were most marked in monkey No. 31. In this animal very few normal fibres were to be found. In most of the fibres the myelin was broken into segments and instead of running a straight course along the margins of the fibre it had a wavy outline—that is to say, the myelin was still intact (except for its segmentation) but instead of being in straight lines the lines were tortuous. In places in some of the fibres little dots of fragmented myelin were to be seen in the centre of the fibres. Some few fibres stained diffusely, showing no differentiation of the myelin. They looked as if the myelin had passed into solution and overflowed into the region of the axis-cylinder. The appearances of the nerve terminals in the other monkeys were much the same as in monkey No. 31, only the proportion of normal fibres in Nos. 33 and 34 was much greater, being in No. 34 very considerable. The following are the details of the human case.

A soldier found a snake in his bed about 9.30 one night. He picked it up and tossed it to a comrade who was standing near. After playing about with it for some time they apparently killed it by hitting it on the head and thrusting a fork through the head. The original finder of the snake then picked it up and putting it in his shirt got into bed. About 3.30 A.M. his comrades noticing that the man was ill, took him to hospital where he died at 6.10 A.M. On fused by dense adhesions; there was a considerable amount of endocarditis present, both old and recent. The liver, spleen, kidneys, &c., were in a condition of passive congestion.

Case 8.—The patient was a stout, alcoholic woman, aged 50 years. She was suffering from cellulitis of the hand and forearm and it was necessary to remove a ring from her finger as it was cutting deeply into the tissues. Six cubic centimetres of ethyl chloride were administered in a modified Ormsby inhaler, the patient being in the semi-recumbent position. Anæsthesia was quietly induced and the mask was removed. Spasmodic twitching of the head and eyes towards the right was now noticed, passing off quickly on the approach of consciousness. The mask was again applied but no more ethyl chloride was added. A few seconds after its removal for the second time the breathing, which up to then had been easy and unembarrassed, suddenly stopped and the pulse was found to have disappeared. Artificial respiration was persisted in for upwards of half an hour but was unavailing, no cardiac impulse being again detected. At the necropsy (which was performed 48 hours later) a marked pallor was noticeable in all the viscera. The heart was empty, the left ventricle was very thin, and the liver was large and fatty. The stomach was greatly dilated and both kidneys were cirrhotic.

Case 9.—The patient was a woman, 40 years of age, with good general health and somewhat stout in appearance. She had once had a fainting fit and occasionally palpitation. Ethyl chloride, or rather somnoform, was given for the extraction of some 17 teeth. After seven teeth had been extracted the patient's breathing was noticed to be very shallow and then ceased altogether. Immediately restorative measures were applied, including artificial respiration, oxygen, strychnine, and galvanism, but the woman never made any attempt to breathe again, although the pulse did not cease for some time after the breathing had stopped. At the necropsy the heart was found to be "covered with an accumulation of fat."

Case 10.—A boy, aged 14 years, was admitted to the Royal Albert Hospital, Devonport, suffering from an injured finger and while in the hospital he was found to have adenoids. In order that they might be removed he was put under ethyl chloride and a very brief anæsthesia of about half a minute was induced. Just as the patient was regaining consciousness he suddenly turned pale and both pulse and respiration ceased immediately. All restorative measures proved futile. At the inquest death was stated to be due to cardiac syncope.

Case 11.—The patient, a female, aged 50 years, went to a dentist to get two or three teeth extracted. She had previously been warned by her medical man on no account to have an anæsthetic at any time if she could possibly help it, as she had recently had two attacks of pneumonia and her heart was very asthenic. She was put under ethyl chloride by the dentist's assistant, who had a medical qualification, and died in a few moments before any teeth had been removed. At the necropsy no signs as to the actual causation of death were to be noticed but a muscularly asthenic heart.

Case 12.—A man, aged 30 years, was being "put under" with ethyl chloride prior to the administration of chloroform for the removal of a malignant growth. Before the change to chloroform was made, however, the breathing and pulse suddenly ceased and death occurred. At the necropsy extensive malignant growths were found throughout the body.

Case 13.—The patient, aged 20 years, was admitted to a large general hospital for anæmia and bad teeth. There was no evidence of cardiac disease. She was put into a dental chair and anæsthetised by means of five cubic centimetres of ethyl chloride. Five teeth were drawn, when without any change of colour or sign of respiratory obstruction, both pulse and respiration ceased. Artificial respiration was of no avail. The patient had been properly prepared for an anæsthetic. No post-mortem examination was allowed.

Case 14.—The patient was a married women, 50 years of age—"a soaker." There was no evidence of heart disease. She was suffering from a suppurating bursitis in the elbow. An anæsthetic was administered in the out-patient department with the patient in the supine position, three cubic centimetres of ethyl chloride being used. She went under all right but with a good deal of struggling. The mask was removed and the arm was incised; the bursa was scraped out and dressed. Just as the bandage was being applied the patient moved and began to breathe deeply when suddenly the pulse and breathing stopped and she died, all restorative measures being useless. At least one and a half minutes had elapsed since the mask was removed when the breathing stopped. The patient had moved slightly both when the incision was being extended and the bandage was fixed. At the necropsy the right ventricle of the heart was found to be very fatty and at one place no muscle fibre could be seen. The left ventricle was hypertrophied but not dilated; the coronary arteries were patent. There was an old tuberculous patch in both lungs; the liver was in a nutmeg condition and the kidneys were granular.

Case 15.—The patient, a man, aged 67 years, went to a dentist to have three or four teeth extracted. Ethyl chloride was administered to him for this purpose by the brother of the dentist who was a fully qualified medical man. It is said that about five cubic centimetres of the drug were administered; it may be presumed by a close method, but this is not stated. Anæsthesia was induced and three teeth were extracted and the fourth was just being removed when the patient suddenly turned very pale and died almost at once. The ordinary restorative measures were applied but without avail. A necropsy was allowed and carried out by a competent pathologist who found that the heart was in a condition of fatty degeneration. At the inquest the jury returned a verdict in accordance with the medical evidence and no blame was attached to the medical man responsible for the anæsthesia.

Case 16.—The patient was a robust adult male who required to have some teeth extracted. The dentist he consulted gave him the option of nitrous oxide or chloroform but the patient refused both and the dentist finally elected to administer ethyl chloride himself, no assistant being present. Anæsthesia was induced and several teeth were extracted when the patient suddenly made an attempt to vomit and then stopped breathing. The tongue was drawn out and artificial respiration was carried on but without any good result. A tracheotomy was not attempted. At the necropsy no foreign matter causing obstruction of the airway was found in the larynx or trachea. Both lungs and throat, however, were in a state of chronic inflammation. The patient is said to have had "chronic inflammation of his throat for many years," possibly due to the excessive use of tobacco.

Case 17.—The patient, a seaman in the Royal Navy, went to Haslar Hospital to have the stumps of several teeth extracted. He was examined by the surgeon on duty and pronounced fit for the anæsthetic. Ethyl chloride was administered to the establishment of full anæsthesia and the teeth were extracted, the man regained consciousness, but in three minutes he suddenly collapsed and died. All restorative measures were useless. At the necropsy the lungs were found to be congested and the heart empty.

Case 18.—A death occurred recently at a Leeds dispensary.

Case 19.—A death has occurred at Llandudno (dental case).

Case 20.—A death has occurred at Swansea (dental case).

Cases 21 and 22.—Two deaths occurred recently at the Civil Hospital, Mustapha, Algiers.

Remarks and conclusions on the cases.—One is struck by the fact that some of the cases recorded above were very bad subjects for *any* anæsthetic—e g., Nos. 1, 6, 8, 11, and 14. Again, several of them might, with a very much greater degree of safety, have been negotiated with chloroform or a mixture containing it on an open inhaler, rather than with ethyl chloride. For instance, no anæsthetist of experience and sound judgment would have considered it good practice to anæsthetise Cases 2 and 6 with ethyl chloride—in a closed or even semi-closed inhaler at any rate, and the necropsy in Case 5 showed this to be equally unsuitable. Nitrous oxide would have been equally lethal in the circumstances. In Cases 3, 5, 6, and 16 death was obviously due to asphyxia, and in Case 5 at least death could have been avoided by more prompt action. The most unsatisfactory cases from the point of view of the safety of ethyl chloride are 4, 10, and 17. Here we have three patients whose organs were in a healthy condition, who had no alcoholic history and suffered from no constitutional dyscrasia, dying from syncope of just that very sudden and unpreventable character which we have been wont to look for in a certain percentage of chloroform cases. It is noteworthy that *out of these 22 fatal cases no less than eight occurred during dental operations.*

What is the approximate death-rate under ethyl chloride?

operation was commenced, and after about three minutes two cubic centimetres more were added. In spite of the trachea being opened the breathing became worse and worse, the circulation and respiration stopping at last entirely, while the patient became deeply cyanosed and the pupils widely dilated. The mask used was a semi-open one.

CASE 3. *Olcott Allen's case.*—The patient, a coloured man, aged 28 years, was to be operated on for incarcerated hernia. He had been vomiting freely but the vomit was not of a fæcal character, the general condition being good on the whole. Anæsthesia was started by ethyl chloride and progressed satisfactorily until the patient was in full narcosis when a change was made to ether. Just as the ether was applied he vomited and retched, bringing up a large quantity of nearly clear watery fluid. The vomiting ceased in about three or four minutes but the breathing did not begin again, the patient was cyanosed in appearance, and no pulse could be felt. No obstruction could be felt in the throat, but as a necropsy was not allowed this question could not be further gone into.

CASE 4.—The patient, a female, aged 18 years, was suffering from some affection of the sacro-iliac joint, supposed to be either an abscess or sarcoma. She was thin and tuberculous in appearance. After a careful preparation for anæsthesia she was given five cubic centimetres of ethyl chloride by means of an Ormsby inhaler as a preliminary to etherisation. Anæsthesia was easily induced without struggling. At the first sound of stertorous breathing the inhaler was removed and ether was put on the sponge but the anæsthetist noticed before replacing the face-piece that the patient's breathing had suddenly become shallow and on examination it was found that the pulse was not perceptible. Strychnine was injected and artificial respiration was carried out for upwards of half an hour but with no good result. The patient seemed to breathe naturally a few times but the pulse never came back. The pupils were dilated and the reflexes were absent. The amount of ethyl chloride actually inhaled was, in the anæsthetist's opinion, not more than from three and a half to four cubic centimetres. At the necropsy a large sarcomatous tumour arising from the sacral vertebræ was found in the pelvis. There were no secondary deposits and the heart and other organs were quite normal.

CASE 5.—The patient was a robust and healthy man, aged 24 years, who was suffering from a large abscess under the right jaw, alveolar in origin, which was pointing just below the angle of the jaw. He had been unable to take any nourishment practically for three days prior to the operation. His breathing just before the operation was quite normal and there was no dyspnœa or blueness. The heart showed no abnormality of action on examination. Six cubic centimetres of "kélène" (ethyl chloride) were sprayed on to a double layer of lint inserted inside the face-piece of the inhaler and anæsthesia was rapidly induced without any struggling or sign of distress on the patient's part. The abscess cavity was incised (the inhaler having previously been removed) and about two ounces of pus were evacuated. At this moment the patient stopped breathing and the medical man who was looking after the anæsthetic forced open the mouth with some difficulty and pulled out the tongue. Respiration began again, though somewhat imperfectly. The operation was rapidly concluded, when suddenly the breathing again ceased. As artificial respiration seemed ineffectual owing to some throat obstruction tracheotomy was performed, when the air entry became satisfactory but no further respiratory effort was made by the patient in spite of the injection of strychnine and the use of various mechanical stimuli. At the necropsy all the organs were found to be healthy. A large abscess cavity was found, however, extending from the angle of the jaw on the right side to well beyond the middle line of the neck. There was no pus remaining in it. There was very marked œdema of the glottis present but there was a fair amount of passage left for air. On the right side, however, there was a bulging fold of mucous membrane which might have been sucked into the opening and acted as a plug and caused complete obstruction. The medical men concerned were greatly struck by the very marked rigidity present, leading to great difficulty in getting the mouth open; the head and neck were spasmodically fixed in a somewhat retracted position. They concluded that death was due to tracheotomy not being done soon enough to relieve the asphyxial condition which led to secondary heart failure. It was stated that some three minutes elapsed between the arrest of breathing and the establishment of a free airway.

CASE 6.—The patient, a man, aged 67 years, was admitted to a hospital in Birmingham suffering from a swelling of his jaw and neck, accompanied by some dyspnœa. His breath was foul and he had a purulent discharge into the mouth. There was a brawny swelling of the whole lower jaw which had been forming for several months. A diagnosis of malignant growth of the lower jaw was made. The patient was carefully prepared for an anæsthetic and the chest was examined. The heart was found to be enlarged, but the sounds, though feeble, were to be heard distinctly. The expansion of the chest was imperfect, the breath sounds were harsh, the expiration was prolonged, and rhonchi were present. The urine contained some albumin. Six cubic centimetres of ethyl chloride were sprayed into an Ormsby inhaler and anæsthesia was induced without any struggling in about one and a half minutes. At the moment of the incision the breathing was noticed to be shallow and the pupils dilated with a sluggish conjunctival reflex. There was no jaw spasm. The incision having been completed some fluid, chiefly blood, escaped when the patient suddenly stopped breathing. The inhaler, which had been kept on now for about two minutes, was removed, the mouth was wedged open, and the tongue was drawn out. As the patient made no attempt to breathe artificial respiration was at once begun, while the wound was hurriedly stitched up and dressed. The patient began to struggle and tried to get off the table, struggling violently for three or four minutes but not regaining consciousness; at the end of this time the breathing again ceased and he became cyanosed to a marked degree. Artificial respiration was again commenced and carried on for some 15 minutes and strychnine was injected. The pulse could not be felt nor the heart sounds heard. Tracheotomy was performed and artificial respiration was carried out assiduously with rhythmic tongue traction but without any good result and the efforts were finally abandoned. At the necropsy, which was performed by the resident pathologist, a large swelling composed of malignant glands was found in the neck and by means of it the wall of the pharynx was bulged in and pushed almost to the middle line, narrowing its diameter to about one-half the normal. The width of the larynx was also considerably diminished. The laryngeal muscles were invaded by the growth and the left vocal cord was swollen and œdematous. The heart weighed 23 ounces. The heart muscle showed fatty infiltration and the wall of the ventricle was exceedingly thin, in one place being not more than one-tenth of an inch thick. The right ventricle was much dilated and contained blood clot. The liver was in a state of fatty degeneration and infiltration, with recent venous congestion. The kidneys were cirrhotic.

CASE 7.—The patient, a female, aged 29 years, was admitted to a hospital in Dublin suffering from chronic cardiac disease and failure of compensation. Her abdomen was distended with ascites and she was unable to breathe except in the sitting posture. The action of the heart was found to be frequent and irregular. On the day after admission to the hospital the abdomen was tapped and five pints of fluid were withdrawn; she was again tapped on two subsequent occasions and a similar quantity of fluid was removed. It was evident, however, that a large amount of fluid was left on each occasion and the relief afforded was only slight. It again became necessary to tap the patient owing to great respiratory difficulty, and on this occasion, as the patient was exceedingly nervous about the operation, it was decided to give her an anæsthetic so that a larger trocar might be used and greater relief afforded. Owing to the unsatisfactory condition of the breathing and circulation, however, the anæsthetist called in almost refused to give any general anæsthetic, but after some consideration consented and selected ethyl chloride. Between two and a half and three cubic centimetres were administered by means of Luke's inhaler, care being taken to avoid air deprivation. The patient, though obviously very nervous, breathed freely and was anæsthetised in about 15 seconds. The mask was withdrawn and the operation was begun. At this time the patient was breathing well though she was somewhat rigid and cyanosed; a medical man who had his finger on the pulse, however, said that he could not feel it. At the same time the breathing stopped and the patient from that time onwards never made any voluntary effort to breathe. Artificial respiration was zealously carried out for an hour or more, the external jugular was opened, and hot cloths were placed over the præcordia but quite without any effect. At the necropsy the heart and pericardium were completely the mastoid process without any involvement of the middle ear. There are eight centres of ossification in the temporal bone, one for the squamous, two for the styloid process, one for the tympanic ring, and four for the petro-mastoid portion. These centres have nearly coalesced about the fifth month of intra-uterine life, but during the remainder of fœtal life the squamous is easily separable by maceration from the petro-mastoid. During the first few years of life also the petro-mastoid and the masto-squamosal sutures are more vascular than the rest of the bone and separation by maceration is occasionally possible. On the outside of the skull of a newly born infant the masto-squamosal line of suture can easily be detected. It commences at the point of junction of the mastoid, parietal, and squamous bones, and then passes downwards and forwards, making with the posterior root of the zygoma an angle of about 45 degrees, until it reaches a point in a line horizontally with the centre of the outlet of the bony meatus—that is, the apex of the supra-meatal triangle. From that point the line drops vertically downwards to the lower surface of the bone. On the inner surface of the infant skull the line of the petro squamosal suture can be distinctly seen running along the junction of the petrous with the squamous. When a fœtal temporal bone is macerated and the squamous is separated from the petro-mastoid it will be seen that the outer wall of the mastoid antrum is formed by the descending plate of the squamous, and that nearly one-third of the masto-squamosal suture line is above, and posterior to, the mastoid antrum. Thus, the line of the masto-squamosal suture can be divided into two parts: (1) an upper part which is above and behind the antrum; and (2) a lower, most of which runs along the posterior border of the descending plate of the squamous—i.e., along the posterior border of the outer wall of the antrum. The point on which stress is to be laid is this—viz., that if a spot of caries occurs along the line in portion (1) it is possible for a perforation exposing the dura mater of the middle fossa to occur without the mastoid antrum being opened up. Two cases which have been under my care illustrate the importance of this point.

CASE 2.—The patient, a boy, aged six years, was admitted into the Birmingham Children's Hospital on May 27th, 1900, complaining of the presence of a swelling over the right mastoid process. In this position was a soft, fluctuating swelling with the skin just becoming red. The history given was that the patient had never had ear-ache or any discharge from the ear and that the swelling had been forming for the past three to four weeks. The membrana tympani on examination appeared quite normal, there being no bulging, perforation, or visible scar. There was no displacement of the auricle. The patient's temperature was normal and he complained of no pain beyond a little tenderness on pressure over the swelling. On June 1st the swelling was incised and proved to contain pus. In a position corresponding to the extreme upper end of the masto-squamosal line was a patch of carious bone of about the size of a split pea. This was scraped away and a sinus was found to perforate through so as to expose the dura mater of the middle cranial fossa. The remainder of the surface of the mastoid and of the descending plate of the squamous appeared quite healthy and so the antrum was not opened. The wound was packed and healed satisfactorily, there never being at any time a discharge from the auditory meatus.

CASE 3.—The patient, a girl, aged five years, was admitted into the Children's Hospital, Birmingham, on Nov. 13th, 1900, complaining of a swelling over the right mastoid which had been forming for three weeks. There had never been any otorrhœa and there had been no complaints of pain. The membrana tympani appeared to be normal. During the next three days the patient's temperature varied from 98·6° to 99·5° F. There was no displacement of the auricle. On Nov. 16th the abscess was opened. At the upper border of the mastoid, just in the position of the upper end of the line of the masto-squamosal suture, was a small patch of carious bone. This was scraped and was found to penetrate almost, but not quite, through to the dura mater. The remainder of the mastoid process appeared to be perfectly healthy. The wound was packed and rapidly filled up.

Here, then, were two cases of what may be called "quiet mastoid abscess," in which the abscess was clearly due to the formation of a patch of caries, presumably tuberculous, in the exact position of the upper part of the masto-squamosal line; in that part of the line, in other words, which has on its deep surface the dura mater of the middle fossa and which is altogether above and behind the position of the mastoid antrum. Had this patch of caries occurred a little lower down in the course of the masto-squamosal line, then, when perforation of the bone took place, the antrum would have been opened up and it would then have been impossible to say whether the disease began as a tuberculous otitis media, which led to secondary caries of the mastoid process, or as a primary caries of the mastoid process which had perforated through the masto-squamosal line into the antrum. In fact, Cases 2 and 3 appear to give the clue to the morbid anatomy of this class of mastoid abscess.

From a study of these cases it seems justifiable to draw the following conclusions: 1. That in young children a form of mastoid abscess not uncommonly occurs (in 10 out of 61 cases) in which there is no history of otorrhœa and in which the membrana tympani appears to be normal. 2. That in these cases the abscess is of slow and painless formation, the patient's temperature not being raised and the ear not being displaced. 3. That in these cases the abscess is due to primary caries of the mastoid, the patch of caries occurring somewhere along the line of the masto squamosal suture, this being in a young child the softest and most vascular portion of the bone. 4. That if the patch of caries forms in the upper part of the masto-squamosal line and if perforation of the bone occurs the dura mater of the middle cranial fossa is exposed and the mastoid antrum is not opened up. 5. That if the patch of caries occurs in the middle or lower part of the masto-squamosal line the antrum is quickly opened up and then the caries spreads rapidly through the mastoid.

When the patch of caries is found to be situated in the upper part of the masto-squamosal line and the rest of the mastoid is healthy, then it can be taken that the abscess was caused by a primary caries of the mastoid. When, however, the patch of caries is found to be situated in the middle or lower part of the masto squamosal line—i.e., in that part which runs along the posterior boundary of the supra-meatal triangle—it must remain uncertain whether the abscess is due to primary caries of the mastoid or to tuberculous inflammation of the middle-ear. But, reasoning by analogy, it seems at all events probable that mastoid abscesses of this class have a common origin—viz., in caries of the mastoid process; that the patch of caries occurs nearly always along the line of the masto squamosal suture and that whether the mastoid antrum is opened up or not depends upon the exact position in the line of the suture at which the caries occurs.

Birmingham.

OBSCURE CEREBRAL MANIFESTATIONS OF TUBERCULOSIS.

NOTES ON THREE CASES.

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THERE are few diseases which do not appreciably upset the intricate mechanism of the nervous system, but it is surprising in how few the disturbance is betrayed by prominent symptoms or remains a permanent one. It is not perhaps so surprising to observe in how many different forms the disturbance is manifested. The following notes on two cases in which the cerebral symptoms were the most urgent and in which post mortem lesions of tuberculosis were apparent will serve to show, however, the difficulty of tracing these disorders to their proper source, while Case 3 may serve to accentuate the diversity that occurs. Tuberculosis, even when confined to one organ, may appear in the most divergent forms, and when diffused the unity of the disease may not always be determined. It is similar in its secondary effects on the nervous system. So often has the unreasoning hopefulness accompanied the progress of the lung affection that the "*spes phthisica*" has come to be regarded as characteristic. In phthisical insanity, again, the variableness of mind, the unsocialness, or irritability with suspicion, even at times monomania, have all appeared and been regarded as symptomatic. Indeed, the insanity has been stated to begin usually before any marked symptoms of pulmonary tuberculosis appear,[1] and this may account for

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[1] Clouston: Mental Diseases.

In 1902 Seitz of Constanz endeavoured, with the material then available, to establish the relative mortality under ethyl chloride, and investigated something like 16 000 cases, chiefly on the continent, and he found that up to that time only one fatality had been recorded (that of Lotheissen) and he accordingly fixed the death rate at 1 in 16,000. I may endeavour at the present time to make a rough estimate of the mortality as follows. There are some 35,000 medical and dental practitioners in the United Kingdom at the present moment. One may safely assume that during the past three years at least one-seventh, or 5000, of these have been using ethyl chloride pretty constantly, probably not less often than once in every ten working days—that is to say, that each of them has given ethyl chloride about 30 times per annum on the average, which will amount to 150,000 administrations per annum for the whole profession, or 450,000 for the three years. I find that out of the above list of fatalities 17 occurred in the United Kingdom, so that with these data the mortality works out at 1 in 36,000 approximately, upon which basis ethyl chloride compares very favourably with ether and chloroform. It is almost certain, however, that there have been considerably more than these 22 deaths which have come to light, but even if I were to find on continued inquiry that there were as many as three times the number (and this is rather unlikely) I should still only have a death-rate of 1 in 8000, and the fact remains that ethyl chloride is a *comparatively* safe anæsthetic agent, certainly much safer than chloroform for short operations.

If we except the extraction of teeth, there is probably no operation for which ethyl chloride has been more frequently employed than that for the removal of adenoid growths of the naso-pharynx. In the throat department of the Royal Infirmary, Edinburgh, alone it has been administered on upwards of 1500 occasions without a mishap. And out of the fatal cases above recorded we have only one occurring when the anæsthetic was given for this particular operation. In this case the administrator was a student who had practically no experience of anæsthetics and the operator was a house surgeon who had performed this operation only on half a dozen previous occasions. On examination of chloroform statistics we find that the number of fatalities which have occurred under this drug when used for adenoid operations is very great, and during the decade 1890–1900 no less than 100 such deaths occurred (Chaldecott). This is surely a strong argument for the employment of ethyl chloride and the avoidance of chloroform in operations for the removal of adenoids and tonsils.

As regards *personal experience* I have now administered ethyl chloride to all classes of patients on considerably over 2000 occasions and have been happy in not seeing a single fatality, and indeed nothing worse than two cases of temporary respiratory arrest with considerable cyanosis and very widely dilated pupils. One of these cases was sufficiently alarming and demanded immediate and careful treatment, and such cases, quite apart from actual deaths, make it quite plain that no one should undertake the administration of ethyl chloride at any time unless he is prepared and quite qualified to deal with an anæsthetic emergency. The dangerous symptoms come on with a rapidity not exceeded by the onset of troubles in chloroform anæsthesia. Ethyl chloride is most essentially not an anæsthetic to be administered, as it has been in the past, haphazard, according to the "instructions for use" provided with a new inhaler by the enterprising instrument maker or druggist. In dental work it is best not to give ethyl chloride *alone* but either to give it in mixture with nitrous oxide for short cases, in small doses of from two and a half to four cubic centimetres, or in sequence with ether for the longer cases.

In my opinion the "boom" in ethyl chloride is well-nigh at an end, but while the publication of such a list of deaths as is recorded above may well discourage the promiscuous and irresponsible use of a highly toxic and very rapidly acting anæsthetic, yet one would hope that ethyl chloride will not be unduly discredited or sink into comparative desuetude; it should rather take its proper place as a valuable addition to the anæsthetist's armamentarium for properly selected and suitable cases. The fact, however, that any unregistered dentist, any L.D.S. diplomate, can administer such a drug without let or hindrance under the impression that it is a sort of "glorified nitrous oxide" to any or all of his confiding patients constitutes a public danger which cannot be ignored.

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Edinburgh.

ON PRIMARY CARIES OF THE MASTOID PROCESS AS A CAUSE OF MASTOID ABSCESS IN YOUNG CHILDREN.

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IN young children a form of mastoid abscess not uncommonly occurs without the pre-existence of any discharge from the external auditory meatus and without the presence of any perforation of, or scar on, the membrana tympani. Such was the character of the abscess in ten out of 61 cases of mastoid abscess in children under 15 years of age operated upon by me. These ten cases had the following characteristics in common:—1. In each case the patient was an infant or quite a young child, the youngest being six months old and the eldest seven years. 2. There was no history of otorrhœa, nor did any discharge from the auditory meatus appear during the course of the case. 3. There was no perforation of the membrana tympani visible. 4. The abscess formed slowly, in some cases a month elapsing between the first appearance of the swelling and the first attendance of the patient at hospital. 5 There was a marked absence of pain. 6. The auricle was not displaced downwards and outwards as in the ordinary form of mastoid abscess resulting from suppurative otitis media. 7. There was no elevation of temperature. 8. There was very extensive destruction of bone; but, in spite of this, there were no symptoms of intracranial complications. As an example the following case may be quoted.

CASE 1.—The patient, a boy, aged one year and nine months, was first seen on Dec. 16th, 1898. There was present over the right mastoid process a fluctuating swelling, which had been gradually forming for three weeks. The mother stated that the child had apparently not been in pain and that there had never at any time of his life been any discharge from the external auditory meatus. When admitted into hospital the patient had a normal temperature, the ear was not displaced, and there was no bulging or perforation of the membrana tympani. The child looked in good health and there were no symptoms of any intracranial complications. The abscess was opened and a patch of carious bone was seen on the mastoid process, its exact situation being a point just behind the supra-meatal triangle, in other words, about the centre of the line of the masto-squamosal suture. The carious bone was scraped away and the sinus so formed was found to lead into the interior of the mastoid. It was found that the outer shell only of the mastoid was intact, the rest of the process being carious and in its centre was a sequestrum half an inch square, evidently the result of caries necrotica. The outer shell of the mastoid was cut away and the carious bone in its interior was scraped away, the resulting cavity being three-quarters of an inch deep, the caries having extended into the petrous bone. The wound healed soundly. The patient was last seen 11 months after the operation. The membrana tympani was then unperforated and there had been no otorrhœa.

This was the only case among the ten in which there was an actual sequestrum, but in all the amount of bone destruction was great, in several the sinus groove being opened and the dura mater over the upper surface of the petrous bone exposed. The explanation usually given of the occurrence of this kind of mastoid abscess is that there has been, in the first instance, tuberculous disease of the middle ear and that the disease has spread to the antrum, so causing the mastoid abscess, the membrana tympani remaining intact all the time. But, bearing in mind the mode of ossification of the temporal bone and studying the details of the two cases given below, it becomes manifest that the variety of mastoid abscess under discussion may be due to primary caries of of the objections that occur to classifying them as manifestations of the same disorder. They have only one feature in common—that tuberculous lesions existed and were found post mortem. In Case 2 only were those exhibited in the brain and there the symptoms in reference to it were physical rather than psychical. Phthisical insanity is a distinct disease and embraces none of these cases, which in relation to mental symptoms were classified as melancholia, epileptic insanity, and delirious mania respectively. But it is easy to push the *post hoc, ergo propter hoc*, too far, and it is a known fact that more insane than sane patients die from tuberculosis. Nevertheless, Case 3 had pulmonary tuberculosis before he became insane; Case 2 had tuberculous lesions before he developed the epilepsy which brought the mental symptoms in its train; and Case 1 very probably had Addison's disease while in a state of sanity. They are all illustrative of the benefit derived from post-mortem examination, even where the diagnosis seems perfectly clear. Without such procedure Cases 1 and 2 would have been put down as examples of acute pneumonic phthisis and of ordinary major epilepsy. They each present interesting and debatable features and apart from their suggestiveness they seem, from their intrinsic interest alone, worthy of record.

Exminster.

A SUCCESSFUL CASE OF EPIPLOPEXY FOR CIRRHOSIS OF THE LIVER WITH ASCITES.

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AT the present time, when surgical procedures for the relief of some of the symptoms of hepatic cirrhosis are being so much discussed, the following case is interesting and its publication may be of value as an item among the many observations necessary to a thorough appreciation of the value of such operations, their scope, and their limitations.

The patient, a man, aged 40 years, was successfully treated by Dr. F. V. Adams in the later months of 1904 for nasal obstruction resulting from enlargement of the turbinates. One day in January, 1905, while feeling perfectly well and walking in the street, he was seized with sickness and vomited blood, after which he fainted for a second or so and fell on his knees. He went home to bed and by the next day seemed all right again and was able to go out. After this he remained to all appearance perfectly healthy until July 10th, 1905, when he was on holiday in Ireland. After a cup of tea at breakfast that morning he felt sick, vomited blood, and fainted slightly, exactly as on the previous occasion. He was kept in bed for a week this time and was fed by the rectum. He has had no other attack of this kind and he can suggest no cause for either of the two attacks. His previous health had always been excellent, apart from slight bilious attacks which he attributed to confinement and want of exercise. He had no cough. He could take any kind of food, his bowels were regular, and he did *not* suffer from piles. He lost about 10 pounds in weight during the week of rectal feeding but appeared to regain this afterwards. According to his own statement, which is corroborated by his friends, he was always moderate in the use of alcohol. About a bottle of beer at supper was the extent of his indulgence. He never took beer in the day-time and he took no spirits at any time. After the first hæmorrhage, which has been described, the stools were black for a time but there were no stomach symptoms. After the second attack the stools were again black for a time, but, in addition, he began to suffer from abdominal pain when he had been in bed for a few days; and, after a few more days, when he began to take food by the mouth he became troubled with distension. The pain, though constantly present, was never very severe but on the whole it tended to get worse as time went on. It did not seem to be related to the taking of food but it was aggravated by pressure and kept him from lying on either side. At the same time his general health remained good.

When the patient was seen on July 27th it was noted that the abdomen was greatly distended. The signs pointed to ascites with flatulent distension of the stomach. There was tenderness at the right lower costal margin, just to the right of the xiphoid, but nothing abnormal was palpated there. The liver could not be felt. Examination of the rectum gave negative results. The lymph glands in the right axilla were somewhat large but those in the other accessible parts were normal. The heart and the urine were normal. Some crackles were heard at the posterior bases but otherwise the lungs were normal. On August 4th, in St. Elizabeth's Nursing Home, the abdomen was tapped and after the ascitic fluid was evacuated the stomach was distended with carbon dioxide, with the result that no great dilatation was found. There was still tenderness in the right hypochondrium.

Operation.—On the 8th the abdomen was opened in the middle line above the umbilicus; a quantity of ascitic fluid was evacuated and there was found cirrhosis of the liver and also an adhesion of the pyloric end of the stomach to the under surface of the liver. No tumour was found in the liver, portal fissure, pancreas, hepatic or splenic flexure of the colon, or pylorus. The stomach was healthy except for some dilatation of the veins. The omentum was then spread out and sutured by means of a fine, continuous, catgut suture to the peritoneal surface of the anterior abdominal wall, first on one side of the incision and then on the other side. There were three rows of sutures on each side. In closing the abdominal wall the first layer of sutures was passed through the transversalis fascia and peritoneum and the omentum was picked up with the needle as it passed from one side of the wound to the other, so that the omentum was attached by seven rows of suture. The rest of the abdominal wound was closed in two layers. The after-history of the patient was uneventful, the wound being healed when it was dressed a week after the operation. He went home on the 23rd—the fifteenth day—and a week later he was allowed to go to the coast for change of air. After a month's holiday he resumed work and he has continued at his occupation without interruption until the present time.

At this date,[1] eight months after the operation, inspection of the abdomen shows a dilated vein, the superficial epigastric, extending from near the umbilical end of the cicatrix to the left groin. No other venous dilatations are observed and the abdominal wall is otherwise normal. No ascitic fluid can be detected in the abdomen and no abnormalities are observed on palpation or percussion.

One of us (T. K. M.) examined the patient on April 2nd and made the following note of his condition: "Mr. —— called this afternoon and expressed himself as perfectly well, being indeed brighter and altogether better than he has been for the last 15 years. He has been a total abstainer since he was in St. Elizabeth's Home. The only symptom he has had since the operation was melæna. This happened once, about two months ago, and if he had not noticed the stools black he would not have known that anything had happened. He attributed it to running for a train or to a twist when he was scrubbing himself in the bath. The liver is reduced in size and there is no tenderness in the right hypochondrium. The spleen is sufficiently enlarged to be easily felt on inspiration. The heart is normal. I note the enlarged superficial epigastric vein running down to the left groin from the scar, near its lower end. There is a good current of blood in it flowing downwards."

The case is one of cirrhosis of the liver characterised by well-marked ascites, by hæmatemesis, and latterly by tenderness of the right hypochondrium, as well as by pain in that region. The condition of the liver was demonstrated by inspection. There are an absence of any serious alcoholic history and no suspicion of syphilis or of malarial or other toxic infection, and there are no tumours in the neighbourhood of the liver, spleen, pancreas, or colon. The operation was simply that of suture of the omentum to the anterior parietes, without rubbing or scraping of the surface of the liver, of the spleen, or of the parietal peritoneum; and, after a lapse of eight months, and with the solitary exception of a trivial hæmorrhage, evidenced only by melæna, the patient reported himself as quite well, and there is satisfactory evidence of a local increase in the venous circulation of the abdominal wall originating at the site of operation.

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[1] The patient was shown at a meeting of the Glasgow Medico-Chirurgical Society on April 6th, 1906.

the assertion that it has not been shown that more than an average number of phthisical patients become insane (Hector Mackenzie) and may be very suggestive in the consideration of Case 1. Thus much for the lungs.

Disease of the adrenal glands is usually accompanied by nervous symptoms, the chief mental ones being apathy and depression,[2] but the mind remains clear unless coma or delirium supervenes.[3] Other symptoms, such as prostration after exertion and disinclination for exercise, may be common to pulmonary tuberculosis and Addison's disease, where both exist in the same individual. In the following case the existence of suprarenal disease was undetected during the life of the patient, the severity of the symptoms of the lung affection completely overshadowing any sign which might have suggested an additional focus of disease.

CASE 1.—The patient, a male, was first admitted on Oct. 8th, 1898. His family and personal history was negative as to pulmonary tuberculosis and alcohol, but a maternal uncle had died in an asylum. He said that he had some complaint which prevented him from working and thought it was due to someone "illwishing" him. He had attempted suicide. Physical examination revealed no evidence of disease save that the first sound of the heart was slightly rough in character and the pulse was 90. He was dejected and depressed but answered all questions readily and rationally, had a good memory, and realised his position. He was discharged recovered on June 6th, 1899. He was readmitted on Jan. 30th, 1902. His certificate again showed that he asserted himself to be suffering from an internal and incurable disease and had threatened to do away with himself. The pulse on this occasion was found to be 89 and of high tension; the heart was as before, but no trace of organic disease could be discovered. He exhibited good health and his melancholic symptoms seemed to be disappearing until the beginning of 1905 when he became very distressed, saying that he could not live. Examination of his chest in January showed the presence of consolidation in the apex of the left lung, and in February there were all the physical signs of a cavity. He began to lose weight, became anæmic and emaciated, had gastric irritability, and an uneven temperature. His pulse became feeble and he had copious night sweats and died on June 16th, 1905. He was never observed to cough during the whole course of his illness. His age at death was 52 years.

The necropsy revealed a large cavity in the left lung, which was full of pus and over two inches in diameter. Chronic pleuritic adhesions were present and the smaller bronchial tubes were choked with purulent material, most of the lung being in a state of consolidation. The weight of the organ was 60½ ounces. The heart was small, the muscle being soft, but the valves were competent. The spleen was soft and friable and the kidneys were apparently normal. The suprarenal gland of the right side was firmly attached to the kidney; that of the left was separate from its kidney and surrounded by a separate envelopment. Both suprarenals were enlarged, each weighing two and a quarter ounces, and in parts were fibrous and cartilaginous in feeling to the finger and gritty to the knife, other parts being studded with cysts which exuded a colloid material and cavities full of thick caseous pus, the left—i.e., on the same side as the affected lung—showing an abscess one inch in diameter. The liver was waxy. The brain was œdematous with distended ventricles. There was no anasarca, no pigmentation of the skin, no leucoderma, or deepening of the natural pigmentation in the usual sites. The hair showed no bronzing. There was a patchy, purple discolouration of the mucous membrane of the upper lip and of the gum of the upper jaw at its junction with the teeth, but no deposit of pigment on the tongue, the palate, or the lower lip.

There are several features of interest that rather tempt speculation as to the connexion between the mental state and the physical conditions. Was the lung affection previous to the suprarenal or *vice versâ?* Was the mental disorder secondary to the suprarenal? In the order of appearance by outward symptoms the melancholia was succeeded by the pulmonary tuberculosis and the latter had cut short the life of the patient and presumably the outward exhibition of the disease of the adrenal bodies. But these glands could hardly have been more diseased than they were and the patient's lungs were healthy till within a year of his death. His melancholia was a recurrence of a previous attack and was certainly previous to the pulmonary tuberculosis. Heredity is important in phthisical insanity and in cases of the latter an inherited tendency to insanity can usually be traced (Clouston). Is it that though the insanity appears before the pulmonary tuberculosis there is already a focus of the disease in the patient, though undiscoverable? Or can the depression of Addison's disease in a predisposed patient go on to insanity? One case with melancholia has been observed by Dr. Rutherford Macphail. While again drawing attention to the patient's main "delusion" I leave the discussion to abler judges.

CASE 2.—The patient, a male, aged 50 years, was admitted on March 31st, 1904. He was confused and semi-stuporose. He had been subject to epileptic fits for "some months." The pupils were contracted. The gait was shuffling and Romberg's sign was present. There was slight albuminuria. The breath sounds were normal. He remained dull and apathetic and suffered from nocturnal epileptic fits, crying out before them and falling or rolling over to the left. He was irritable occasionally. He was able to do outdoor work, his fits averaging 16 per month. In October, 1905, he had a succession of fits which left him feeble and stuporose. Bromide of sodium in 30-grain doses reduced the fits considerably but he died after several severe fits on Dec. 16th, 1905. He vomited once on the 15th.

Post mortem caseous nodules were found in both apices and in the bronchial glands. Miliary tubercles were found in the liver. No other organ with the exception of the brain was found to be affected to the naked eye. In the latter a curious condition presented itself. On running the hand over the cortex hard patches were felt where the pia mater was firmly attached. In the grey matter under, the cortex was firm and tough and fibrous in feeling. These scar-like nodules were less than pea-sized and in the cerebrum of each side but not in the frontal lobes, six such spots being on the right side and four on the left. In addition, in the cortex of the right occipital lobe a cyst with tough walls and containing caseous granules was found. The cyst was a quarter of an inch in diameter. None of these cortical nodules was encapsuled or easy to separate from the surrounding grey matter. In both lateral ventricles the ependyma was granular and small calcareous nodules of the size of a hemp-seed were found. In the left lobe of the cerebellum the white matter was firm and difficult to tear and the grey matter was almost non-existent. The white matter was contracted and gritty on section. Here one finds very suggestive signs. Slow-growing tumours are not rarely found in the brains of epileptic dements (Mott) and these during life may give rise to symptoms very like idiopathic epilepsy (Oppenheim, Mott). Small fibrous areas are occasionally found post mortem (Shennan) as if a tuberculous lesion had become quiescent. And tumours of the cerebellum (Mott) and of the parieto-occipital region (Risien Russell) may grow to a considerable size without evidencing focal symptoms. In cerebellar atrophy (Russell) epileptic convulsions are not rare and if a tuberculous seat in the cerebral convolutions contract and dry up it may cause epileptic attacks (Cotterill). That the last was the cause of the epilepsy and that affection of the cerebellum accounted for the fall to the left and the disturbance of gait is quite possible.

CASE 3.—A male, aged 25 years, was admitted on March 14th, 1905, suffering from acute delirious mania. There was a family history of pulmonary tuberculosis and the patient had been under treatment for the same disease in a sanatorium and been discharged cured. It was impossible to examine him properly but a cavity was found in the left lung. He remained violent and delirious till his death on March 17th. Post-mortem examination confirmed the diagnosis of a cavity, most of the remaining part of the lung being consolidated.

Here, on the basis that a toxæmia is the cause of this form of insanity, one must presume that mixed infection had occurred. Many are the causes assigned to this disease, quite as many, in fact, as to all diseases not known to be due to a specific organism, and pulmonary tuberculosis is in this array.[4] And whatever the cause may have been in this case, it is at least certain that the delirious mania occurred during the course of the disease.

In reviewing the records of these three cases I am aware the operation should be performed, if possible, in the pre-ascitic stage. Bunge also advises this early interference and quotes Turner, Rolleston, and the later writings of Talma to the same end. Rolleston also advises early operation. After discussing the manner in which the operation may benefit the patient, he says (p. 260), "When cirrhosis can be diagnosed with fair certainty in the pre-ascitic stage and when there are evidences of the disease such as hæmatemesis and splenic enlargement, operative interference has a much better chance than in the late stages," and again (p. 261), "The earlier the operation is undertaken the better the chance of improvement, or even arrest, of the disease."

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[2] Stockman: Text-book of Medicine, edited by Gibson.
[3] Rolleston: Encyclopædia Medica.

[4] Blandford: Insanity

In consideration of the opinions of others and judging from the results in the present case it seems reasonable to hope that surgical interference will become more readily employed than heretofore and it is evident that the occurrence of hæmorrhages, and even severe hæmorrhages, is no barrier to operation but rather an indication for its use. The fact that the artificial anastomosis readily develops may be taken as a proof that portal obstruction is the main factor in the production of ascites as of hæmorrhages, notwithstanding the theory advanced by Harris, just quoted, that a chronic peritonitis is materially instrumental in its causation, and the toxæmic theory of Rolleston.

Referring briefly to the various methods of operating, it would seem that the greater the amount of anastomosis produced—*ceteris paribus*—the better should be the result. In the earlier operations means were taken to secure adhesion between the liver and diaphragm and fixation of the spleen, as well as suture of the mesentery to the abdominal wall. Bearing in mind that the patients are often seriously ill and that, particularly in cases of alcoholic origin, general anæsthetics are badly borne, it is evident that friction or curetting of the hepatic and diaphragmatic surfaces, insertion of a fold between them, and manipulation of the spleen cannot always be undertaken with reasonable safety. It is desirable, therefore, in the majority of cases, to select an operation which may be performed under a local anæsthetic. A simple suture of the omentum to the parietal peritoneum, such as was performed in this case, could readily be done with local anæsthesia, but the method described by Narath may not only be performed with Schleich's solution but seems to give a better result in a more speedy and more generous formation of compensatory circulation. The method consists in the formation of a subcutaneous pocket in the anterior abdominal wall and the insertion of a thick fold of omentum therein, care being taken that the suture of the abdominal wound is sufficient to prevent the occurrence of hernia but not enough to obstruct the circulation in the extruded omentum. Narath states that the skin around the wound becomes œdematous but that the tumefaction soon passes off and a ring of radially arranged venous radicles appears, sometimes as early as the second week. Describing the direction of the new venous flow, he mentions that of the superior epigastric to the femoral vein, the thoraco-epigastric to the lateral epigastric, and hence to the axillary vein, and one or more venous branches flowing upwards over the sternum and costal cartilages, with the remark that these mostly develop on the left side. No matter what operation is performed in the presence of ascites it cannot be expected that the fluid will cease to re-form until the collateral circulation has developed sufficiently to compensate. The insertion of a drainage-tube can hardly be recommended, though it formed part of the original operation, on account of the discomfort to the patient and the danger of septic infection, but relief may be given by one or more tappings should they be required. It may be mentioned also that the firm strapping of the abdomen is not now considered necessary. The operation performed in this case (*vide supra*) secured a broad area of contact between the omentum and the parietal peritoneum. It has the further advantages that it is easily and quickly performed; it may be done without general anæsthesia and there need be no impairment of the stability of the anterior abdominal wall.

In conclusion, it is submitted that in the simpler operations we have a means, comparatively free from risk, of alleviating the distressing symptoms of patients suffering from cirrhosis of the liver, and that such treatment should be undertaken in the early stages of the disease when possible, although it is not barred by the appearance of ascites or hæmorrhage. Admittedly useless in the last stages of the disease, when little glandular substance is left, when jaundice is present, and where renal or cardiac diseases complicate the condition, it is worthy of trial, even in well-marked cases, for the relief it sometimes affords.

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Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF PURULENT PERICARDITIS SIMULATING EMPYEMA.

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THE patient, a well-developed girl, aged four and a half years, was admitted into Victoria Park Hospital under the care of Sir Hugh Beevor, Bart., on June 15th, 1905. There was a history of an illness of one month's duration, commencing with what was diagnosed as influenza. This was followed by an attack of diarrhœa and vomiting, accompanied by abdominal pain. A fortnight before admission pneumonia was thought to have set in. During the whole month the child's feet had been slightly swollen, and at one time the left knee-joint (this latter had passed off before admission). She never vomited and for the few days before admission had not seemed feverish but her appetite had been capricious and she had only passed a small quantity of concentrated urine. Except for slight attacks of "bronchitis" her health had previously been good, she never having had any children's complaints. The family history was excellent.

On admission the patient seemed at first to be restless and fretful but when put to bed she lay quietly on her left side, slightly propped up. Considering her month's illness her condition seemed fair. Her colour was, however, pale and slightly bluish and her muscles were a little flabby. The temperature was 97·4° F.; the pulse was 140 per minute, of poor volume and tension, but easily counted; and the respirations were 40 per minute. On examination of the chest the left side was seen to bulge a little and not to move as well as the right on respiration. The heart's apex beat was not visible nor yet palpable. There was an absolutely dull percussion note from above the left clavicle all down the left side, extending two inches to the right of the middle line of the sternum. The heart sounds were heard over the lower part of, and to the right of, the sternum. The percussion note over the whole of the left back and axilla was equally dull. Breath sounds on auscultation were absent over the whole area except at the extreme left apex, where they were bronchial. There was well-marked puerile breathing over the whole of the right chest, with a few crepitations at the base. The hepatic dulness began low—at the seventh rib in the nipple line—and the liver could be felt one inch below the costal margin. The abdomen appeared otherwise to be natural. There was slight œdema of the feet and legs; the urine was scanty but it contained no albumin. A diagnosis of empyema was made and on the same evening an aspirating needle with two feet of rubber tubing attached to it was inserted one inch into the chest in the seventh intercostal space in the left posterior axillary line. In this way 22 ounces of pus were withdrawn which was inoffensive and yellowish in colour. The aspiration was accompanied by no coughing, the child dozing while the fluid ran away. On the next day the patient, though very ill, seemed to be no worse, but, on examining the back of the chest, signs of a localised pneumothorax were found to be present around the place of insertion of the aspirating needle. On the two ensuing days the child's condition became worse; she was taking her food very badly and was becoming more restless at night; the signs of

In the literature of the subject various claims are set forth in the matter of priority of the idea of producing an anastomosis between the portal and the systemic circulations, and it would serve no good purpose to discuss here the rival claims of those who have employed allied artifices to attain that end, but the names of Talma of Utrecht and Morison are so closely associated with the early publication of such procedures that they are likely to be accepted as distinctive. Although the surgical treatment of the circulatory difficulties in cirrhosis is of comparatively recent date there have already appeared many reports of operations and of different varieties of procedure, as well as conflicting estimates of the value of surgical interference. It is no matter for surprise that operations have been undertaken in cases that were unsuitable, both with reference to the ability of the patient to undergo any operation and with reference to the possibility of improvement in view of the condition of the liver itself or of other vital organs such as the heart and kidneys. For that reason the statistics, taken over all, are of little value unless there be given with each case sufficient information to enable a classification to be made.

It is necessary to know as definitely as possible the objects to be gained in order that the success of the result may be estimated. Osler sums up the prospects of the treatment very concisely when he states that "ordinary cirrhosis of the liver is an incurable disease. ...... So far as we have any knowledge, no remedies at our disposal can alter or remove the cicatricial connective tissue which constitutes the *materia peccans* in ordinary cirrhosis. On the other hand, we know that extreme grades of contraction of the liver persist for years without symptoms when the compensatory circulation exists." Frazier gives the maximum scope of the operation when he states that: "This operation purports to open another channel for the relief of the portal circulation. I say another channel because there already exists a more or less free collateral circulation between the systems of the portal vein and the inferior vena cava." He then indicates the natural channels of anastomosis, which are perhaps better given by Osler: "1. The accessory portal system of Sappey, of which important branches pass in the round ligament and suspensory ligaments and unite with the epigastric and mammary systems. These vessels are numerous and small. Occasionally a large single vein, which may attain the size of the little finger, passes from the hilus of the liver, follows the round ligament, and joins the epigastric veins at the navel. Although this has the position of the umbilical vein it is usually, as Sappey showed, a para-umbilical vein—that is, an enlarged vein by the side of the obliterated umbilical vessel. There may be produced about the navel a large bunch of varices, the so-called caput Medusæ. Other branches of this system occur in the gastro-epiplöic omentum, about the gall-bladder, and, most important of all, in the suspensory ligament. These latter form large branches, which anastomose freely with the diaphragmatic veins, and so unite with the vena azygos. 2. By the anastomosis between the œsophageal and the gastric veins. The veins at the lower end of the œsophagus may be enormously enlarged, producing varices which project on the mucous membrane. 3. The communications between the hæmorrhoidal and the inferior mesenteric veins. The freedom of communication in this direction is very variable and in some instances the hæmorrhoidal veins are not much enlarged. 4. The veins of Retzius which unite the radicles of the portal branches in the intestines and mesentery with the inferior vena cava and its branches. To this system belong the whole group of retro-peritoneal veins which are in most instances enormously enlarged, particularly about the kidneys, and which serve to carry off a considerable portion of the portal blood."

In the earlier operations advantage was taken of the proximity of the liver to the diaphragm, and the adjacent surfaces were rubbed so as to promote adhesion, and for a like purpose the spleen was similarly treated. More recently some surgeons have endeavoured to get the greatest amount of anastomosis by fixing a large portion of omentum in an extra-peritoneal pocket made in the anterior abdominal wall. The methods will be referred to later but these are mentioned now to indicate some of the varieties of procedure by which artificial anastomosis between the portal and systemic circulations may be obtained. It would be comparatively easy to suggest further methods of producing adhesions calculated to increase this anastomosis and it is not an unlikely suggestion that the cases of ascites in this disease, successfully treated by simple and prolonged drainage, owe their recovery to multiple adhesions and therefore multiple anastomoses.

If the whole question of surgical interference depended on the non-sufficiency of the natural collateral circulation the answer would be comparatively easy, for the occurrence of ascites, hæmatemesis, and epistaxis, with varices at the anus and umbilicus, and distended venules at the lower costal margins, &c., would indicate the need for assistance. It will be evident, however, that when the disease is so far advanced that the liver substance is mostly destroyed by the cicatrising connective tissue, operative measures for the relief of the portal circulation are too late; indeed, the occurrence of jaundice in this disease is generally held to bar surgical intervention. So, too, the presence of marked kidney or cardiac lesions is a decided objection. Some observers hold that the occurrence of hæmorrhage is a sign that the fibrotic changes in the liver are so far advanced as to negative surgical intervention. Bunge mentions as further contra-indications the presence of urobilin in the urine and pigmentation of the skin. That may be taken as a general statement of the limits of operative interference. Rolleston in referring to the bad effects which may result from excessive development of this venous anastomosis remarks that: "In the first place, if communications are extensive it necessarily follows that a considerable quantity of blood carrying the products of digestion will pass directly into the general circulation instead of passing through the liver. If the anastomosis is very free the condition would resemble that in Eck's fistula or the experimental communication between the inferior vena cava and the portal vein, which results in all the portal blood passing into the inferior vena cava." He refers to experiments carried out on these lines by Hahn, Nasse, Nencki, and Pawlow, in which effects equivalent to those of hepatic insufficiency resulted, and he quotes Stockton in support of a statement that excessive development of the collateral circulation may lead to a toxæmic condition verging on uræmia. Remarking that one of Morison's patients, "after an operation for the surgical relief of ascites, was alternately excited and depressed for three weeks," he suggests that possibly a very free anastomosis between the portal and general venous systems, while relieving portal engorgement may lead to arterio-sclerosis and granular kidneys." In the second place, hæmorrhage may take place from rupture of the dilated venous anastomosis, and he quotes some cases where a hæmatoma occurred in the anterior abdominal wall, near the middle line, in patients suffering from hepatic cirrhosis.

The advantages claimed for the operation are the relief of those symptoms which are directly due to the retardation of the portal circulation. In that category ascites and hæmatemesis may be regarded as the most prominent, while sickness, epistaxis, and hæmorrhoids occupy a position of secondary importance. These constitute the burden which the patient has to bear, and though no claim is made that the relief of the portal circulation will check the course of the disease, it is apparent from the number of cases on record that much relief is obtained, while in a number of instances complete cessation of the symptoms results. In an analysis of 14 cases collected by Frazier, and excluding those in which there was some error of technique or of diagnosis or in which the operation was contra-indicated, one patient was living but unimproved, one was slightly improved, and six were living and free from ascites at periods of 3, 4, 6, 24, 24, and 26 months respectively. Frazier believes that in properly selected cases, where the liver is cirrhotic, where there is reason to believe that the liver cells are not devoid of function, where internal medication and paracentesis fail to afford relief, and where there is no reasonable contra-indication, the operation has a future.

Rolleston (pp. 259–60), believing that the ascites is due to toxæmia, suggests that the beneficial effects of operative interference are due (1) to the reduction of the amount of blood passing through the liver diminishing the toxæmic condition of the blood by enabling that organ to deal more satisfactorily with the quantity of blood which does pass through; and (2) to the relief of vascular venous engorgement which permits of a better arterial supply, improves the nutrition of the liver cells, and so favours a compensatory hyperplasia. Harris goes further and believing that the ascites is not solely due to portal obstruction but also to chronic peritonitis resulting from the cirrhosis, suggests that

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SUSSEX COUNTY HOSPITAL.

A CASE OF CARCINOMA OF THE STOMACH; PYLORECTOMY.

(Under the care of Dr. E. HOBHOUSE and Mr. R. F. JOWERS.)

THE patient, a married woman, aged 57 years, was admitted in September, 1905, under the care of Dr. E. Hobhouse and transferred to Mr. R. F. Jowers for operation. Her first attack of gastric pain occurred when she was 27 years of age, chiefly after food. For the last five years she had constantly had pain at the epigastrium after food. Two years previously she also had pain in the left hypochondrium and about the same time noticed a small lump to the left of the middle line, which had gradually increased in size. There had been no hæmatemesis but frequent vomiting with relief of pain, no constipation, or melæna. In the abdomen, just to the left of the middle line, was a hard mass which was moveable and of about the size of a Tangerine orange. The liver was not enlarged and there were no enlarged cervical glands. When seen by Mr. Jowers at the end of September she was vomiting after everything she took and was having opiates daily for the relief of pain.

Operation was performed on Oct. 2nd. Mr. Jowers opened the abdomen and found the tumour to be freely moveable and situated at the pyloric end of the stomach. It involved about one-third of the stomach and there were glands in the omenta above and below the growth. The omenta having been ligatured well away from the glands, clamps were applied to the duodenum and the stomach and the included portion was removed with scissors. The opening in the stomach was closed with two rows of continuous sutures. As the cut end of the duodenum could easily be approximated to the stomach without tension it was attached to a vertical incision made in the posterior wall of the stomach about an inch behind the line of section by two rows of continuous sutures. The great omentum was then turned up and attached by one or two points of sutures over the junction and the abdomen was closed. Examination of the specimen showed it to involve both anterior and posterior walls, and Dr. F. G. Bushnell, after microscopical examination, reported it to be scirrhous carcinoma.

The patient made an uninterrupted recovery. When seen recently she was in good health, had gained flesh, and was able to eat ordinary food without pain.

Remarks by Mr. JOWERS.—From the history of the early attacks of pain it seems probable that this is a case of malignant disease following upon gastric ulcer. The importance of early diagnosis cannot be too strongly insisted upon and it was fortunate that after the known existence of a lump for two years excision was still practicable. Quite recently I have operated upon two cases in which, owing to involvement of adjacent parts, removal was impossible and a palliative gastro-enterostomy only was practicable.

EAST SUFFOLK AND IPSWICH HOSPITAL.

A CASE OF APPENDICITIS COMPLICATED BY PERFORATED DUODENAL ULCER.

(Under the care of Dr. JOHN GUTCH.)

FOR the notes of the case we are indebted to Mr. E. G. D. Milsom, house surgeon.

The patient was a man, aged 36 years, who was treated at the East Suffolk and Ipswich Hospital under the care of Dr. Gutch. The following account of his illness previously to admission was given by the patient. He awoke on the morning of March 1st with intense abdominal pain, which by March 2nd had settled in the right iliac fossa; on this date he had also vomited twice and his bowels had been well opened. He had never before suffered from attacks of a similar nature, the only point of interest in his previous history being that he was a heavy drinker and had suffered from indigestion with occasional attacks of hæmatemesis.

When seen in the ward on March 3rd the patient was lying comfortably on his back and not looking very ill. His tongue was furred, his temperature was 101° F., and his pulse was 100. The abdomen moved badly on respiration but showed no obvious fulness. Rigidity was present on the right side but was most marked over the right iliac fossa, where there were also impaired resonance and tenderness on pressure. Rectal examination yielded no information. A blood count showed a leucocytosis of 20,000. Great difficulty was experienced in examining the patient as he was extremely fat. A diagnosis of acute appendicitis was made and, in view of an increasing pulse-rate and the presence of a leucocytosis, immediate operation was decided on.

An incision was made through McBurney's point and on opening the abdominal cavity, after some difficulty, the cæcum was found bound to the neighbouring coils by adhesions. In breaking these down a small quantity of dark offensive pus was evacuated from a cavity behind the appendix through the apex of which a fæcal concretion had perforated. Removal of the appendix was impracticable as small portions broke away on the slightest manipulation; a large drainage tube was therefore inserted and the lower half of the abdominal wound was closed.

For 24 hours the patient seemed to be doing well; he passed a good night and felt comfortable; his temperature was 99·2°. His pulse was good and the abdominal wound was draining well. He had been fed on nutrient enemata only. At 1 A.M. on the night of March 4th he vomited a few ounces of dark tarry blood; he did not complain of pain and had a good tension pulse with a temperature of 99°; his abdomen moved well. Morphine was administered hypodermically and adrenalin and ice by the mouth; but the hæmatemesis continued incessantly and the patient by 4 A.M. was suffering from all the symptoms of severe hæmorrhage. In spite of all remedies he continued to vomit and died on March 5th, 13 hours after the onset of hæmatemesis and 41 hours after operation. Taking into consideration the previous history of alcoholism and hæmatemesis, the most probable diagnosis seemed to be rupture of an œsophageal pile complicating cirrhosis of the liver.

Necropsy.—The post-mortem examination was performed four hours after death. The appendix region was completely shut off from the general peritoneal cavity. It was impossible to ascertain the amount or nature of the fluid in the abdominal cavity, as fæces escaped from the intestines which were wounded when opening the abdomen, but the peritoneum presented no evidences of inflammation. In the first part of the duodenum close to the pylorus there was a perforation half an inch in diameter. There were only a few adhesions in the neighbourhood. The ulcer was single with no induration round it and had a "punched-out" appearance. No open vessel was found to account for the hæmatemesis. The liver showed well-marked fatty cirrhosis and the other organs were normal.

Remarks by Dr. GUTCH.—The association of hæmatemesis with appendicitis, though one of the rarer complications, is not unknown. Kelly in describing the symptoms of acute appendicitis says, "Hæmatemesis has been described by Treves, by Dieulafoy, and by Matheson and others, and is attributed generally to toxic degeneration of the gastric mucous membrane with erosion of small blood-vessels," and the hæmatemesis in the above case might presumably have been of that nature, though with the previous history cirrhosis seemed a much more probable diagnosis. I can find no mention of the degeneration and erosion going on to ulceration, and the association of the perforating duodenal ulcer was in this case, I have no doubt, an unfortunate coincidence and in no way a sequel of the appendicitis. The previous hæmatemesis was also probably due to duodenal ulceration.

DEATHS OF CENTENARIANS.—The *Times* of April 25th states that Captain Edward Dumaresq, late of the Honourable East India Company's service, died on April 16th, aged 104 years, at the residence of his son, Mount Ireh, Longford, Tasmania.—The death occurred at Pontrhydyfen, Glamorgan, on April 24th, of Mrs. Mary Thomas, aged 105 years. Up to a few weeks ago she was quite active and possessed a clear memory. Her grandmother lived beyond 100 years.

pneumothorax now extended from the spine of the left scapula nearly to the base where there was still dulness to percussion. On June 20th, as there was no improvement, it was decided to resect a portion of the eighth rib on the left side. This was done in the posterior axillary line, but as soon as a small opening was made in the pleura the child collapsed and died. No pus came from the pleural cavity but a few drachms of turbid fluid and air escaped.

A post-mortem examination was made on the next day; a small quantity of turbid fluid was found in each pleural cavity but the pericardium contained 15 ounces of pus similar to that drawn off by aspiration, in addition to much curdy material. On further opening up the pericardial cavity the hand could be introduced into it and it could be felt to extend as high as the left clavicle, to the ribs in the left axilla, and also three inches to the right of the middle line of the sternum. The wall of the pericardium was about one-sixth of an inch in thickness. The left lung was completely collapsed; near its base could be seen punctures where the aspirating needle had entered and left it. The endocardium was normal. The liver weighed 20 ounces and showed signs of congestion, as did also the kidneys. Cultures were taken of the pus removed by aspiration and of the pus found in the pericardium post mortem; in both cases a pure culture of staphylococcus pyogenes albus was obtained.

Note by Sir HUGH BEEVOR.—Dr. Adams reports here an instance of inefficient diagnosis which has been the usual experience in published cases of this great distension of the pericardium. The mere calling attention to this somewhat rare condition may prevent its being overlooked when consulting as to operation of resection of rib after the discovery of pus by exploratory puncture.

Victoria Park, E.

A CASE OF COMPOUND FRACTURE OF THE PELVIS.

BY EDWARD P. LEAVY, L.R.C.P., L.R.C.S. IREL.,

GOVERNMENT MEDICAL OFFICER, GERALDTON, JOHNSTONE RIVER, QUEENSLAND.

THE patient in the present case was a woman, aged 50 years, and weighing 12 stones, who was brought into the local hospital after a buggy accident. She was in a collapsed state and the front of her dress was soaked with blood which came from a rupture of the upper lip extending as far as the nasal fold and exposing the upper jaw on the left side. There were no other injuries on the face or head. She had no teeth. On removing her clothes her under-garments had much blood upon them which she said had come from "the front passage." She complained of great pain on the left side, with inability to move the corresponding leg. As she lay on her right side after the removal of her clothes the left hip and buttock were observed to be flattened and seemed to have sunk away into the right side. The vaginal hæmorrhage had ceased. Under chloroform the hip-joint was freely moved, the head of the bone was in position, and the leg was uninjured, but on passing the finger into the vagina a large roughened surface of bone could be felt protruding through the left side of that cavity, evidently a fracture of the inferior ramus of the ischium immediately in front of the tuberosity. Reduction was accomplished with the patient on her back by hooking the left leg over the surgeon's arm, and on raising the limb the roughened surface of bone was felt to sink back from its unnatural position. The leg was then bandaged on a McIntyre's back splint screwed up to an acute angle and it was also deemed advisable to place the right leg in a similar splint. The lip was sutured. On a catheter being passed the urine came away clear and was normal in reaction; the bowel was emptied by enemata and a normal motion was passed. The patient could empty the bladder and the bowel naturally in a few days, but on one occasion—namely, on the eighth day after the accident—she commenced to complain of sharp pains whilst passing urine and some blood-stained sediment came away. The bladder was then washed out for a few days and a diuretic mixture was given when all pain and disability ceased. The seat of the fracture was occasionally examined but no displacement of the bone could be felt; the pubic arch was regular; nothing satisfactory could be demonstrated as to the injury to the left sacro-iliac articulation except the patient's subjective symptoms. By the end of the fifth week a trial of the patient's progress was made by assisting her to sit upright and an opportunity was then offered of thoroughly examining the sacral region. Both buttocks were uniform in appearance and no pain was elicited on movement. She was further assisted to stand and when with help she managed to take a few steps round the ward she complained only of feeling giddy and weak.

Fracture of the pelvis is, so far as I know, sufficiently rare to deserve recording, especially on account of the limited range of injury (if any) to the pelvic viscera. I look upon the rupture of the upper lip as the result of *contre-coup*. The patient was wearing a full set of false teeth when she sustained her injuries but they have, strange to say, been lost since the accident.

Geraldton, North Queensland.

NOTES ON ANOTHER CASE OF POISONING BY NITRO-BENZOL.

BY CHARLES H. GREGORY, M.A., M.B. CANTAB.

IN THE LANCET of Jan. 13th, p. 88, Staff Surgeon A. H. H. Vizard recorded a case of poisoning by nitro-benzol. A few notes on another case may be of interest. A short time ago a youth, aged 17 years, swallowed at least one mouthful of this substance out of a bottle which he mistook for one he had half emptied of lemonade and intended to finish. This occurred about noon and his stomach was empty. It was about 20 minutes afterwards that I saw him and during the next half-hour administered copper sulphate to the amount of ten grains, he only then vomiting when I was inserting a syphon tube to wash out his stomach, thinking it inadvisable to wait longer. The patient left my surgery feeling no ill effects but was noticed about an hour or two later to be becoming bluish about the lips. About 5 P.M. I saw him at home; he was in bed complaining of constant vomiting, the ever-present taste of the poison, headache, faintness, and giddiness on attempting to rise. His breath and what little mucous was ejected from the stomach still gave the characteristic odour of "artificial oil of almonds." The pulse was weak and easily compressible and examination of the heart showed the presence of a systolic murmur. The whole body was bluish in colour, the face, especially the lips and tongue, being almost black. Full instructions were given that the boy was not to be left during the night and that in the event of any change I was to be sent for immediately. Meanwhile a dose of calomel was given and a mixture of bismuth and compound tincture of morphine and chloroform to combat the sickness. Brandy was also given, with directions to increase the amount if necessary. The next morning saw the patient a little better, but the headache continued for three days, no coma supervening. The colour of the skin did not become natural for five or six days and by that time the cardiac murmur had entirely disappeared. A tonic containing iron and arsenic rapidly improved the patient's condition and he returned to work in between two and three weeks as well as ever. The urine was dark throughout and looked as if it contained blood-pigment, but beyond the fact that it was shown to give the reaction for picric acid and did not contain albumin circumstances did not permit of an exhaustive examination of it.

Apiti, New Zealand.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.—The pass list of the April examinations has recently been issued. Of seven candidates who entered for the Intermediate Examination the following six passed: C. T. Bennett, B.Sc. Lond., S. H. Groenewoud, B. R. James, G. R. W. Lawson, E. H. Merritt, B.Sc. Lond., and C. A. Wonham, B Sc. Lond. In the Final Examination for the Associateship (A.I.C.) the following three out of four candidates examined in the branch of Mineral Chemistry passed: G. N. Bacon, Assoc.R.C.Sc. Lond., B.Sc. Lond., F. M. G. Johnson, M.Sc. Montreal; and E. J. Wilson, B.A. Cantab. Of four in the branch of Metallurgical Chemistry one passed: H. J. Bailey. Two candidates presented themselves in Organic Chemistry and both passed: L. H. Berry and O. W. Stickland, B Sc. Lond. Of seven who entered in the branch of the Analysis of Foods and Drugs and of Water, including an examination in Therapeutics, Pharmacology, and Microscopy, the following five passed: B. J. Eaton, W. R. Mummery, F. L. Okell, R. P. Page, and R. G. Pelly.

PATHOLOGICAL SOCIETY OF LONDON.

Conveyance of Plague by Feeding.—Bacillus Equi.—Carcino-sarcoma of Larynx.—Classification of Pathogenic Streptococci.

A LABORATORY meeting of this society was held at St. Bartholomew's Hospital on May 1st, Dr. F. W. ANDREWES being in the chair.

Dr. E. KLEIN showed lantern slides illustrating the successful Inoculation of Rats, Guinea-pigs, and Mice with Plague by means of Feeding Experiments. The material used was dried gelatin and agar cultures of the organism.

Dr. KLEIN also showed a lantern slide illustrating Bacillus Equi in the blood of a rabbit dead after intravenous inoculation by this organism.

Mr. FRANK A. ROSE showed a microscopic section of a Tumour removed from the Larynx. The tumour had been removed by the operation of thyrotomy from the interior of the larynx. Microscopic examination revealed an unusual appearance. Two-thirds of the tumour had the appearance of a spindle-celled sarcoma, whilst the remaining portion had the appearance of a squamous-celled carcinoma. An enlarged lymph gland showed no evidence of malignant disease.

Dr. ANDREWES and Dr. T. J. HORDER gave a preliminary account of their work on the Classification of the Streptococci Pathogenic for Man. Dr. Andrewes, after mentioning the conflicting views which have been held on this subject, referred to the chemical tests introduced by Dr. M. H. Gordon, which he shortly described. In the hands of Gordon, Houston, and others very marked chemical distinctions had been shown to exist amongst the saprophytic streptococci of the mouth and intestine, in air and in milk. He and Dr. Horder had tested some 200 streptococci and pneumococci from cases of human disease, applying Gordon's tests to each. They had found these tests, on the whole, to give very constant results—i e , a given strain gave always identical reactions, with occasional exceptions. Some reactions were less constant than others, indicating that all the tests were not of equal value. But no one chemical reaction was of absolute specific value. Gordon's tests required to be used in conjunction with other characters and so used they were of the greatest assistance in the identification of the streptococci. The streptococci were a dominant genus which had specially adapted itself to a saprophytic existence in the animal body and were probably rapidly varying in their physiological acquirements Some few forms only had acquired parasitic powers. The species were not yet fixed so clearly as in some other genera. Tabulating the results of some 1300 or 1400 colonies in which Gordon's tests had been applied the result was a bewildering number of chemical types in which no sort of order was apparent till other characters were taken into consideration But amongst the pathogenic forms some five groups of approximately specific value were recognisable. These were as follows: 1. Streptococcus pyogenes, vel erysipelatos, the most typically parasitic and virulent. This was a long-chained form which never clotted milk or reduced neutral red. It gave a positive acid reaction with saccharose and lactose and usually with salicin, more rarely with coniferin and mannite. This was the species responsible for acute suppurations, erysipelatous processes, and many septicæmias. 2. A type which was chemically closely related to the streptococcus brevis of the mouth and intestine but which in disease commonly showed long chains. It was distinguished from streptococcus pyogenes by its power of clotting milk and usually of reducing neutral red, by its lesser virulence, and by the fact that it grew with difficulty on gelatin at 20° C. It was a not uncommon cause of malignant endocarditis and had possible relations with scarlet fever and rheumatism, though no sufficient data were forthcoming for definitely associating it with these. 3 Streptococcus fæcalis: a short-chained form typical of the intestinal canal, not pathogenic for mice, but chemically very active. It habitually gave positive reactions with all of Gordon's tests except raffinose and inulin and sometimes even with these; on the other hand, some reactions might be suppressed. It was common as a cause of cystitis and of terminal septicæmias, perforative peritonitis, and occasionally of meningitis. 4. The ordinary pneumococcus, which habitually gave positive reactions with saccharose, lactose, and raffinose, and often clotted milk; inulin, too, was sometimes fermented. 5. An aberrant pneumococcus, growing well on gelatin at 20° C. and fermenting mannite and saccharose. These types represented the irreducible minimum of groups, of approximately specific value, to which the pathogenic streptococci and pneumococci could be referred. Many intermediate forms occurred and might ultimately prove worthy of recognition as species. The question had a very serious bearing on serum therapeutics, because it was possible in a few days to refer any given streptococcus to one or another of these types and it would be easy to prepare anti-sera against each type. Dr. Horder specified the condition usually called malignant endocarditis as illustrating the importance of these investigations. During the past two years the streptococci isolated from the blood during life and from the heart valves after death in cases of malignant endocarditis had been subjected to full investigation, including the series of metabolic tests already mentioned. The result has been to show clearly that the commonest type of streptococcus present is not streptococcus pyogenes but one or another of the types which occur as common saprophytic organisms in the intestine or mouth. The cases thus examined numbered 16, 13 of which were examined by blood culture upon one or more occasions during life, the organism being isolated by this means. Of the 16 streptococci two only were certainly of the type streptococcus pyogenes. No fewer than eight were of the type, at present unnamed, so common in the saliva. Four were of the type streptococcus fæcalis. In two cases the reactions were not satisfactorily completed. The organisms isolated during life were mostly verified by these same reactions post mortem. One of the two cases in which streptococcus pyogenes was present was a very acute case, fatal in three days from the onset. The other case was much more acute than either of those from which the other two types of streptococcus were isolated. It therefore seemed certain that in the rather common subacute or chronic cases of streptococcal endocarditis the organism was rarely streptococcus pyogenes The significance of this observation was very considerable, as well from clinical and therapeutic as from a pathological point of view. Pathologically it explained the source of the organisms most often picked up from the blood stream by a damaged heart valve. These organisms were the common saprophytes of the intestine or mouth which gained a nidus in the valve and thence maintained a state of septicæmia. Clinically, it explained the very chronic nature of many of the cases in which for a considerable interval the disease might exist without much constitutional disturbance. Therapeutically, it perhaps explained the present disappointing results of serum treatment in malignant endocarditis. For it was unlikely that even the most polyvalent serum was immunised to any extent, if at all, against the saprophytic organisms. It must be remembered that a polyvalent serum was polyvalent in the sense of being immunised against streptococci from different sources, not against streptococci having known differences in their characters.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 27th, Mr. H. H. CLUTTON, the President, being in the chair.

Dr. G. A. SUTHERLAND exhibited a case of (?) von Recklinghausen's Disease in a male child, aged five years. At the age of six months a swelling of the size of a bean was noticed on the right temple and the right cheek and eye appeared to be growing out of proportion to those of the left side. All these swellings had greatly increased. The child had suffered from rickets and many bony deformities were present as the result. There was a swelling over the right frontal bone and considerable bony enlargement of the left side of the skull. The right eye was enlarged. The right cheek was enlarged and contained nodular thickenings in its substance. Pigmentation in varying shades of brown was present over the frontal swelling, the right upper eyelid, the trunk, the axillæ, and the groins. There was no enlargement of the spleen.—The PRESIDENT remarked that the case resembled leontiasis ossea in some respects but he had not observed that disease in so young a subject.—Mr. W. G. SPENCER had noted that the spleen was not enlarged and that the hypertrophy of the

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Use of Rectal Injections of an Antistreptococcic Serum in Gonorrhœal Infections and in Certain Cases of Purpura Hæmorrhagica.

A MEETING of this society was held on April 24th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

A communication by Dr. W. SOLTAU FENWICK and Dr. J. PORTER PARKINSON upon the Use of Rectal Injections of an Antistreptococcic Serum in Gonorrhœal Infections and in Certain Cases of Purpura Hæmorrhagica was read. They stated that during the course of a series of experiments upon the influence of various forms of serum and of mixtures of different sera on diseases commonly met with in hospital practice they had obtained certain results which appeared of considerable interest. This statement applied particularly to that large class of complaints in which the symptoms arose from a gonorrhœal infection, either recent or remote, and it was to such that they would at the present time invite attention. Inasmuch, however, as they had also encountered two examples of hæmorrhagica purpura which rapidly benefited by the same method of treatment it might be excusable to include them in this communication. Cases had been selected from a series of 14 consecutive instances in which the presence of gonorrhœa was definitely ascertained and confirmed by bacteriological examination and in which the symptoms and signs rapidly subsided under the use of the serum after having resisted the various methods of treatment usually recommended for the disease. The details of two cases of gonorrhœal pyæmia were then given, followed by two cases of severe gonorrhœal arthritis. The latter two cases were selected because they were not only exceptionally severe but also represented a second attack of the complaint. In both instances the disease progressed during the patient's residence in the hospital and the pain and swelling of the joints first affected were in no way relieved by three weeks' assiduous attention to the original complaint and the adoption of the ordinary methods of treatment of gonorrhœal rheumatism. In both instances, also, the effects of the injection of the serum were immediate, the pain being relieved after the second dose and the tenderness and swelling rapidly subsiding after the third. The rectal injections being administered by a nurse the patients were quite unaware that anything unusual in the way of treatment was in progress. The fact that in the various cases they had treated in this manner the urethral discharge disappeared along with the other phenomena of the complaint naturally suggested that acute gonorrhœa might also respond to the serum. Unfortunately, however, considerable difficulty was experienced in inducing suitable cases to become in-patients at the hospital or to attend each day at the casualty department so as to permit the effects of the treatment to be watched carefully but the results obtained in the few cases treated suggested that the serum would prove as valuable in the urethral complaint as in its sequelæ. Details of two cases of purpura hæmorrhagica were then given. In the first the condition was associated with chronic pulmonary tuberculosis and was one of the most severe and rapid that Dr. Fenwick and Dr. Parkinson had ever encountered. In the second all the organs of the body were apparently healthy but since the child came under treatment as early as the second day of the complaint it was impossible to say what course the disease would have taken. The fact, however, that after the lapse of 24 hours severe hæmaturia and bleeding from the mouth had set in, seems to indicate that the case would have proved a serious one. In both these cases after rectal injection of serum rapid recovery took place. As soon as they were assured that the antistreptococcic serum exerted an important influence upon gonorrhœal infections a series of control experiments were instituted by means of simple enemata and rectal injections of the anti-diphtheritic and other sera. Normal horse serum in doses of 20 cubic centimetres was likewise employed. In no instance did the patients experience any relief of their symptoms as the result of these experiments, nor did the physical signs of the disease in any way improve until the antistreptococcic serum was substituted for the other forms of injection. The antigonococcic serum specially prepared at the Wellcome Research Laboratories for the treatment of gonorrhœa also proved of no value in their hands. In addition to the ordinary joint lesions of gonorrhœal origin they had met with several cases in which the inflammatory trouble was chiefly situated in the muscles of the lumbar region and spine. In two well-marked instances of this description, where the patients had been confined to bed for three and five weeks respectively and were unable either to raise themselves or to turn over owing to the severity of the pain which such movements induced, three doses of the antistreptococcic serum completely removed the complaint, so that on the fourth day they were able to get up and to walk about without experiencing anything worse than slight stiffness of the muscles of the back. They said that during the last two years they had never encountered a genuine example of gonorrhœal rheumatism, either in hospital or private practice, that was not immediately benefited by an injection of the serum or any case which had suffered from a relapse. It might also have been remarked that the term "an" antistreptococcic serum had been employed instead of a more general appellation. The reason for this was that there were at least seven varieties of antistreptococcic serum on the market but it had only been with one of these—namely, that prepared at the Wellcome Research Laboratories—that the results mentioned were obtained. By this they did not mean to infer that the other forms were useless but that this particular preparation had been the one with which the best results had been obtained. They were informed by Dr. W. Dowson, the director of the Wellcome laboratories at Herne Hill, that this special preparation was termed by them the "polyvalent" antistreptococcic serum in order to distinguish it from several other varieties prepared at the same laboratories and that in its manufacture 43 different strains of streptococcus were employed, taken from such diverse clinical conditions as septicæmia, ulcerative endocarditis, puerperal fever, malignant sore-throat, and acute rheumatism. With regard to the dosage of the serum they found that double the ordinary amount—namely, 20 cubic centimetres—followed by three or four injections of ten cubic centimetres each on consecutive days was usually sufficient in the majority of cases, it being only in gonorrhœal pyæmia and in severe examples of purpura hæmorrhagica that two injections a day were necessary.

Mr. STEPHEN PAGET said that he had been one of the first to receive an injection of antistreptococcic serum for an infection from a case of septic peritonitis and the effect in arresting the spread of infection had been most striking. In the cases described the treatment seemed equally effective in chronic as in acute cases and of equal avail in cases which were or were not of bacterial origin, such as purpura hæmorrhagica. He asked whether Dr. Fenwick and Dr. Parkinson had used it in cases of hæmophilia and suggested it might be of service in those cases.

Mr. CAMPBELL WILLIAMS said that the term "gonorrhœal rheumatism" was most misleading. There were three distinct varieties of the disease: first, a cellulitic form which had all the appearance of an acute suppuration but which on incision yielded only a little clear serum; secondly, an arthritic form; and thirdly, an arthralgic form without any swelling but with considerable pain; this pain he attributed to neuritis and periostitis. The so-called gonorrhœal infection was in reality a mixed infection and due to a staphylococcal and streptococcal infection and it was probably for this reason that the disease yielded to the treatment by antistreptococcic serum.

Mr. J. P. L. MUMMERY said that the fact that the serum acted equally well when injected into the rectum as when injected under the skin was an observation of great importance. He said that the injections were of great value in cases in which septic infections were likely to arise, such as excision of the rectum and in operation on the mouth. He asked about the subsequent history of the patient who was cured of gonorrhœal urethritis, for the greater difficulty arose in curing the gleet rather than the acute stage of the disease.

Dr. PARKINSON, in reply to the PRESIDENT, said that no special preparation was necessary before giving the injection by the rectum. He had not tried the serum in cases of hæmophilia. He regarded purpuric hæmorrhages as due to a bacterial infection or its toxin. The injection of the serum rapidly relieved the pain in the joints and the swelling subsided. He suggested that the serum might be used with good results in gonorrhœal ophthalmia.

based upon the case of an English sailor who was recently under his care at the Royal Southern Hospital. He described the parasite which was the cause of the disease, the mode of infection, the symptoms, the blood changes, and the treatment. He also showed specimens of the adult worms and lantern slides of the worms and of fæces containing ova.

Mr. Rushton Parker related two very different cases of Gall stones. 1. The patient, a woman, aged 45 years, suffered from pain, vomiting, and dyspeptic symptoms suggestive of gastric ulcer. An exploration made in the middle line of the epigastrium revealed adhesions between the pylorus and the liver; when these were freed a stone was felt in the gall-bladder. The stone, which was of the size of a small marble, was removed and the gall-bladder was sewn up at once. The patient went home in a few weeks apparently cured. She returned in three and a half years (1906) saying that the immunity from symptoms had only lasted for two months. On March 8th, 1906, Mr. Parker opened the original scar again and extended the wound downwards to give easy access to the biliary passages. A stone in the gall-bladder was removed, the cystic duct was tied and cut, and the gall-bladder removed. Another stone was found impacted in its neck. The patient made a complete recovery in five weeks. 2. A stout and apparently vigorous woman, aged 71 years, was admitted on Dec. 30th, 1905, with symptoms of intestinal obstruction of three days' duration. Three similar attacks in two years had yielded to copious enemata which brought away large fæcal accumulations. Jaundice was set up in each attack after 24 hours. A small slack umbilical hernia was apparently not involved in the symptoms. The abdomen was opened through the hernia by a transverse incision. General peritonitis, with adhesive yellow lymph and inflammatory thickening of several feet of the small intestine, was found. A hard object felt in the gut one foot above the ileo-cæcal valve was found on removal through an incision to be a gall-stone one and a half inches long and three-quarters of an inch thick. The intestinal incision was sewn up and the abdomen was closed. The patient died three hours later. At the necropsy the liver was found to be enlarged and fatty; the gall-bladder was exceedingly small but was filled with a second calculus less than half the size of the one that had escaped. A perforation in the gall-bladder led to a space under the liver and thence into the duodenum. This suppurating space was shut off from the peritoneum and did not account for the peritonitis. The latter more probably resulted from transudation of septic intestinal contents during the impaction of the larger calculus in various parts of the small intestine The state of the patient's viscera, her age, and the duration of the disease together completed the hazard of the situation.

Mr. R. C Dun read a note on the After-treatment of Cases of Radical Cure of Hernia in Infants and Young Children. The growing tendency to adopt early operative measures was commented on, and a comparison was drawn between the results of operative treatment and those obtained by the use of trusses. The chief points in favour of early operation were the certainty of cure and the short duration of treatment. Many children apparently cured by trusses subsequently developed herniæ in later life, and these recurrent ruptures were liable to be looked upon as acquired. The strongest evidence existed that the majority of cases of inguinal hernia occurring in adult life were of congenital origin. The simplicity and safety of operations for the cure of hernia in infants and young children were explained. Stress was laid upon the importance of obtaining primary union of the wound. The supposed difficulty of preventing contamination by the evacuations in children too young to have obtained control had up to the present stood in the way of a more universal recourse to early operation. The open method of after-treatment devised and published by Stiles of Edinburgh had, after 15 months' trial, given thoroughly satisfactory results in Mr. Dun's hands. This method was described in detail. Its simplicity and the certainty with which it prevented soiling of the wound rendered it the best form of after treatment.

Mr. R. W. Murray read a paper on the Etiology and Treatment of Oblique Inguinal Hernia. He said that although the presence of an inguinal hernia must be due to some weakness of the structures through which the abdominal contents escaped, the question yet to be answered was, What are the chief factors which cause this weakness and so determine the descent of the bowel? He did not agree with the generally accepted division of inguinal hernia into congenital and acquired, and after pointing out the marked difference between a typically congenital and a typically acquired hernia said that the sac of an ordinary inguinal hernia at all periods of life closely resembled the former and bore little or no resemblance to the latter. He maintained that the main factors in the causation of oblique inguinal hernia at all ages were, first, the presence of a congenital or pre-formed sac and, secondly, want of strength in the muscles guarding the internal abdominal ring. Evidence derived from the study of comparative surgery, post-mortem observations, and clinical experience was adduced in favour of this belief. As to treatment, Mr. Murray said that the cure obtained by means of a truss must always be uncertain, for he did not believe that the funicular process ever became completely obliterated by this method. He strongly advocated operation during infancy when a permanent cure could be assured. In operating he usually adopted the same method irrespective of the age of the patient. The essential points of the operation were that the inguinal canal was opened up and the sac excised after applying a ligature to it at the level of the internal abdominal ring. The divided aponeurosis of the external oblique was united by overlapping. In exceptionally large herniæ in adults he had obtained satisfactory results by inserting a rubber pad which rested on the transversalis fascia beneath the internal oblique and Poupart's ligament. A hole in the pad transmitted the spermatic vessels and the cord.—The President thought the statement that all inguinal herniæ were due to the presence of a congenital sac was too sweeping.—Mr. Parker thought that the terms congenital, infantile, and acquired should be abolished. He had advocated the early operation in infants more than 11 years ago. The sac should be obliterated but there was no need to remove it and there was no need to close the inguinal canal in children. He considered that the length of the mesentary was an important factor in the etiology of hernia.—Mr. K. W. Monsarrat said that Mr. Murray had added considerably to the already strong evidence in favour of the view that in the great majority of cases at any rate hernial protrusions took place into pre-formed sacs of congenital origin. He thought that all the evidence pointed to the importance of dealing in the most thorough manner with the sac in all operations and to do this he considered that it was necessary to slit the external oblique from the external ring upwards to a greater or less extent in all cases. Bassini's operation had given excellent results in the hands of many surgeons. He thought that its chief merit was the perfect access it gave to the neck of the sac. There was no doubt that in a considerable proportion of cases there was defective origin of the internal oblique from Poupart's ligament, a defect which had to be remedied by suture. Mr. Monsarrat left the cord undisturbed and sutured the internal oblique to Poupart's ligament in front of it and not behind it, considering that it was a mistake to bring the cord through the muscular layer immediately superficial to the internal ring. The recurrences that took place after Bassini's operation did so at this point—a fact which supported the view that the weak point in the several layers of the wound should not be superimposed.—Mr. G. P. Newbolt considered that though the majority of cases of oblique inguinal hernia had a congenital origin, yet there were undoubtedly cases in which the condition was acquired. The radical operation in infancy was practically always successful but the mortality was a factor to be considered and was higher than that in adults.—Mr. D. Douglas Crawford agreed with Mr. Murray that all oblique inguinal herniæ were probably due to persistence of a funicular process, this view being supported by four cases of hernia occurring in boys about 17 years old, the first appearance being associated with strangulation and at operation each was found to possess a patent processus vaginalis with an extremely narrow neck about one inch in length which had produced the strangulation. He used a simple collodion protection in children, instead of a heavy dressing and spica bandage, which being difficult to keep dry increased the risk of suppuration.—Mr. G. G. Hamilton, Mr. Damer Harrisson, and Mr. T. C. Litler Jones also took part in the discussion on Mr. Dun's note and Mr. Murray's paper.

Epidemiological Society.—A meeting of this society was held on April 20th, Dr. J. F. W. Tatham, the President, being in the chair.—Dr. Reginald A. Farrar read a paper on the Infectivity of Cerebro-spinal Fever, supplemented by lantern demonstrations of its bacteriology by Dr. M. H. Gordon. Referring to papers read tissues was localised to the region of the fifth nerve, just as in morphœa there was a localised atrophy in the same region, and he therefore believed that the case could be explained in the same manner—namely, by a trophic lesion of the fifth nerve.—Mr. GEORGE PERNET and Dr. F. PARKES WEBER, however, considered the case to be one of von Recklinghausen's disease, although it differed from the classical descriptions of that malady. The former suggested that the bony changes in the skull might indicate the supervention of sarcoma.

Dr. WEBER exhibited a case of "Spontaneous" Fracture in the Tarsus in a woman with Argyll-Robertson pupils. The patient was aged 45 years. About 12 months ago the right foot had become swollen and painful and some crepitus could be felt A Roentgen ray photograph showed that a portion of the head of the astragalus was broken off and displaced. There were Argyll-Robertson pupils on both sides, the right pupil being the larger. The knee-jerks were present. No definite history of syphilis was forthcoming but the patient had had five miscarriages. Mercurial inunction had been employed, followed by the internal use of iodide of potassium, with considerable improvement.—The PRESIDENT remarked that the case bore all the evidence of tabetic arthropathy. He had seen such cases in which later other evidences of tabes gradually appeared. He regarded the displacement of the head of the astragalus (shown by the x rays) as being peculiar to what might be called Charcot's disease of the tarsus. Gumma of the tarsus in that situation was practically unknown.—Dr. WEBER replied that the Argyll-Robertson pupil occurred in many syphilitic persons without leading necessarily to tabes, of which disease his patient exhibited no other symptoms. A possible explanation of the bony deformity was that it was a gumma, though the appearances in the radiogram resembled a fracture or displacement of the head of the astragalus.

Mr. PERNET showed a case of Ringworm of the Scalp treated by one sitting of the X Rays. The boy, aged seven years, was first seen in October, 1905, with a patch of ringworm occupying the greater part of the occiput. On Oct. 19th, 1905, he had one exposure of the x rays, according to the Sabouraud-Noiré method (with the platino-cyanide of barium pastille). This was followed by the falling out of the stumps and hairs on the parts exposed. The result was excellent, the hair having grown well. No disease was now present.

Mr. PERNET also showed a case of Lymphangiectodes (lymphangioma circumscriptum) occurring in a woman, aged 26 years. The disease had commenced at the age of five months. There were nine or ten groups of deep-seated vesicles occupying the right side of the chest from the neighbourhood of the axilla. Some hæmorrhage had occurred into the lesions. The majority of the cases hitherto described were of English nationality.—Mr. CAMPBELL WILLIAMS thought that these cases of lymphatic nævus were by no means rare, as many such cases occurred in children attending hospitals and were removed by surgeons.

Mr. W. H. BATTLE exhibited a woman, aged 30 years, after operation for Perforation of a Second Simple Ulcer of the Jejunum into the General Peritoneal Cavity. She was admitted to St. Thomas's Hospital in March, 1903, for perforated gastric ulcer. This ulcer was situated in the anterior aspect of the stomach near the pylorus and was surrounded by a good deal of thickening. It was sutured, the peritoneum was cleansed, and a drainage-tube was left in the lower wound. Anterior gastro-enterostomy was performed on April 9th, 1904, for pyloric stenosis. On May 6th, 1905, she underwent operation for perforation of a simple ulcer of the jejunum which had burst into the general peritoneal cavity. It was a circular clean-cut ulcer, situated about one and a half inches from the line of junction of the bowel with the stomach. The ulcer was sutured, the peritoneum was cleansed, and the two wounds through which this was done were closed without drainage. Finally the patient was again admitted to the hospital on March 14th, 1905, for symptoms of "perforation." At the operation a perforated ulcer was found at the line of junction of the stomach and small intestine. The tissues around it were indurated. She left the hospital on April 12th, having made a very satisfactory recovery. It was of interest to note that there were no adhesions found at this operation; also that there was now no hernial protrusion of any of the scars.—Mr. SPENCER discussed the possibility of anterior gastro-jejunostomy producing a tendency to re-perforation, but it occurred also after posterior gastro-jejunostomy and in his opinion was not dependent on the kind of operation performed.

Mr. BATTLE also exhibited: (1) A case of Post-auricular Fistula in a girl, aged 11 years; (2) a case of Deformity of the Ulna with Dislocation of the Head of the Radius associated with Multiple Osteomata in a girl, aged 15 years; (3) a case of Ulceration of the Alveolar Border of the Upper Jaw on both sides exposing the Antrum in a man, aged 38 years, of 18 months' duration, probably due to tuberculosis or actinomycosis.—Mr. SPENCER referred to a similar case due to glanders.

Dr. A. E. GARROD exhibited a case of Muscular Atrophy in a girl, aged 11 years. The atrophy involved the shoulder-girdle on both sides, affecting only the lower portion of both pectoral muscles, and being most marked in the dorsal interossei of both hands. The muscles did not react to either the faradic or galvanic currents. The atrophy was more marked on the left side and the left leg was weak, the latter dating from a paralytic attack at the age of one year.—Dr. E. FARQUHAR BUZZARD agreed in the diagnosis of hereditary myopathy grafted on to a case of infantile hemiplegia.

Dr. GARROD also exhibited a case of Angio-neurotic Œdema in a girl, aged 20 years. Since the age of 14 years she had had recurrent acute attacks of circumscribed œdema of the right cheek. Polyuria had been noticed to accompany the attacks. In the last attack three months previously the œdema had extended to the nose, both eyelids, and the forehead, and since then the œdema had persisted up to the present time.—Dr. WEBER thought that there was some doubt of the diagnosis on account of the constant recurrence of the œdema in the same place and its final persistence; and Mr. SPENCER suggested that it might be produced by some antral or naso-pharyngeal streptococcal affection.

Dr. LEONARD G. GUTHRIE exhibited a case of Extreme Obesity with Precocious Puberty in a girl, aged three years. The child had always been rather plump but had rapidly been growing fatter during the past six months, since which time the breasts had begun to develop and hair had appeared on the pubes. The child's intelligence was normal.—Dr. SUTHERLAND remarked that in most of such cases of abnormal obesity the intelligence was dull but here it was associated with both normal intelligence and precocious sexual development.—Dr. GUTHRIE, in reply, commented on the interesting association of the obesity and abnormal sexual development and drew attention to a series of 12 similar cases published by Dr. W. Bulloch and Dr. J. H. Sequeira in the Transactions of the Pathological Society. Ten of these were females, who exhibited precocious sexual development, and six of them exhibited obesity; the two male cases showed great muscular development. In six of these cases hypernephroma of the adrenals had been revealed and Dr. Guthrie suggested that the same condition might exist in his case.

Dr. GUTHRIE also exhibited a case of Paralysis of the Left Sixth and Paresis of the Left Seventh Nerves in a girl. aged three years, which had supervened about six weeks ago. There was weakness on the left side of the face and paralysis of the left external rectus. Beneath the left zygoma was a prominent swelling. The head was almost constantly drawn downwards towards the right shoulder. A tuberculous nodule could be seen on the back of the right hand. The gait was slow, shuffling, and unsteady.—Dr. BUZZARD suggested a tuberculous lesion at the base of the brain in the ponto-cerebellar region, spreading to the left cerebellar hemisphere and thus causing the ataxy; but Dr. GUTHRIE inclined to the diagnosis of tuberculous disease of bone in the malar region extending inwards and involving the left facial nerve externally and the left sixth nerve internally. The deviation of the head was probably adopted to avoid diplopia.

LIVERPOOL MEDICAL INSTITUTION.

Ankylostomiasis.—Cases of Gall-stones with Unusual Features.—After-treatment of Radical Cure of Hernia in Infants and Young Children.—The Etiology and Treatment of Oblique Inguinal Hernia.

A MEETING of this society was held on April 26th, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. J. LLOYD ROBERTS read a note on Ankylostomiasis, had no practical sick-room training at all. He affirmed that the ignorance of some holders of the certificate proved this fact. The value of the certificate was therefore indefinite and it conveyed no indication of the knowledge and experience of the holder, who might be well equipped for her work or who might be the reverse. Thus a great injustice was done both to the able and well-trained women holding the certificate and to the public who had no satisfactory guide to the capacity of the nurse they might employ. It was therefore absurd to claim that the restriction of the right to register to the holders of the certificate of the Medico-Psychological Association was any guarantee of efficiency, but rather the reverse. While recognising and giving full credit to the association for its past work with regard to nursing, he urged the unfitness of a self-elected body of medical men to act as the sole arbiters to decide what the training and examination of a mental nurse should be. It was absurd that no one, however able and interested, should have anything to say on the question of the nursing of the insane unless he or she were a member of the association. Its education committee contained no representative of the public, of general nursing, or of the mental nurses themselves. He referred to the report of the Select Committee of the House of Commons on the registration of nurses and pointed out the different treatment allotted to hospital nurses as compared with asylum nurses. He advocated the representation of asylum matrons and nurses on the central body and held that this body should exercise the same supervision over the training of nurses in asylums as it would do in hospitals. He also argued that it would not tend to progress in nursing if the qualification for registration in nursing mental cases were restricted to the certificate of the Medico-Psychological Association He supported the view that the qualification for registration should not be restricted to any one certificate but should be such as might be approved by the central body, thus approximating asylum nursing training to that of hospitals.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on April 20th, Dr. J. Porter Parkinson being in the chair —Mr. W. Milner Burgess showed a case of Psoriasis Guttata in a healthy looking boy, aged six and a half years. The spots commenced when the child was five years of age. They were best marked on the chest, the abdomen, and the anterior and inner surface of the thighs and back —Dr. Edmund Cautley exhibited a case of Atelectasis of the Upper Lobes of both Lungs occurring in a female infant born at full time and now aged 31 days. There was no history either of cyanosis at birth or of attacks of lividity. There had been cough for two weeks.—Dr. R M Beatty (Belfast) read notes of a case of Chloroma in a young child for Dr. J. McCaw (Belfast). The patient, who was aged 18 months, was admitted to Belfast Hospital for Sick Children on Oct. 30th, 1905, with a history of having been ill for three weeks. On admission the child seemed to be well developed and well nourished. He was markedly anæmic and had a peculiar frog-like appearance, due to proptosis, to swelling and ecchymosis of the eyelids, and also to swellings of about the size of a Tangerine orange in each temporal fossa. The proptosis and swelling were greater on the right side than on the left. The swellings were hard, dark coloured, and gave no evidence of having fluid contents. A tumour of the size of an egg was situated over the upper part of the sternum, similar to those in the temporal fossa. The glands in the groin were swollen, hard, and black coloured, but not tender. The axillary glands were slightly enlarged. The lower end of the left femur was swollen and very tender on movement. The gums were not healthy but were neither swollen nor spongy. The heart and lungs were healthy; there was no enlarg ment of the liver or spleen. The urine was normal and the bowels were open. The child's temperature was 99 4° F. He became gradually worse and died three days later. No post-mortem examination could be obtained. An examination of the blood showed marked variation in the size of the red cells, which varied in diameter from 5μ to 11μ. Two-fifths were over the average size and some were undoubtedly megalocytes. Many of the normoblasts were in mitotic division —Mr. Robert Campbell (Belfast) read a paper on Inguinal Hernia in Children, giving an analysis of 305 operations for radical cure He said that it was generally admitted that treatment by trusses was uncertain in its results and prolonged and irksome to the patient, whereas by operation a permanent and complete cure could be obtained within a fortnight. He quoted statistics to show that 34 per cent. of his cases were operated on under six months of age and 44 per cent. under one year. He thought that the danger of sepsis in infants had been greatly exaggerated. Only two out of the 305 cases had been attended with suppuration. In referring to the contents of the sac he said that the frequency with which the cæcum and vermiform appendix descended in children was remarkable. He mentioned two cases in which the appendix was found adherent at its tip to the bottom of the sac; and another case in which a large Meckel's diverticulum was in the same condition. Strangulation was not frequent or acute in children. He had operated on 16 cases; most of them were under one year of age, two being 21 and 24 days old. As regards after-treatment his usual plan was to remove the stitches on the fifth day and paint the wound with collodion. The mortality should certainly not exceed 0·3 per cent. The radical cure of hernia in children might, therefore, as regards risk be classified with many so-called minor operations.

CORK MEDICAL AND SURGICAL SOCIETY.—A general meeting of this society was held on April 11th, Dr. R. P. Crosbie, the President, being in the chair.—Dr. J. Cotter read notes of a case of Ectopic Gestation. The patient was a woman, aged 36 years, and had been married nine months. Menstruation was regular up to Nov. 20th, when she missed a period then due. A week after this the period came on, heavier than usual, and lasted four or five days. On Dec. 4th she experienced severe pain in the lower part of the abdomen and felt as if something had given way inside. She became very faint and vomited. A week after a swelling in the lower abdomen appeared which gradually increased. When first seen by Dr. Cotter she was profoundly anæmic, with raised temperature and pain in the lower abdomen, where there was a fluctuating tumour. Per vaginam fluctuation could be felt over a swelling in Douglas's pouch and the uterus was pushed forward. He operated on Dec. 24th, first tapping the tumour through the posterior fornix, and got nothing but pure blood. The abdomen was then opened by mesial incision and what looked like a large ovarian cyst immediately presented. On opening it a large collection of blood, fluid and clotted escaped, the clots being ladled out with the hand. At one side of the cyst wall, somewhat in the situation of the outer end of the left Fallopian tube, was what appeared to be a lump of organised lymph. A portion of this was removed and Dr. A. E. Moore reported that it showed chorionic villi and decidual tissue. The cavity was packed with iodoform gauze and recovery was uninterrupted. Dr. Cotter remarked on the great rarity of such cases and thought that this was a tubal abortion, as there was no evidence of a rupture of the tube.—Dr. Cotter also read notes of a case with obscure abdominal symptoms. A man, aged 20 years, after a few days of malaise, had acute pain in the abdomen with vomiting and great collapse. There were tenderness and some rigidity over the right iliac fossa. Thinking the appendix implicated he opened the abdomen and beyond some serous effusion found nothing abnormal. The patient sank and died the next day. On post-mortem examination the pancreas was found greatly enlarged and somewhat bile-stained, with a peculiar "marbled" marking of its surface. There was no evidence of inflammation or degeneration and the cause of death remained unknown.—Dr. H. R. Townsend read notes of a case of Acute Appendicitis in a girl, aged ten years. He saw her the day after the onset of symptoms. There were severe paroxysms of pain referred at first to the umbilicus and later to McBurney's point. He found a deeply congested appendix which he removed. Dr. Moore examined the viscus and found unmistakable evidence of early pus formation. Dr. Townsend said the case illustrated the necessity for instant operation in acute cases.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Manchester on April 27th, Mr. R Favell, the President, being in the chair.—Dr. J. E Gemmell (Liverpool) showed a Fibromatous Tumour of the Labium Majus whose central portion was of the size of a large orange and which had extensions of considerable size into the buttock and also toward the inguinal ring. Dr. Gemmell also described two cases The first patient was 44 years of age, had been married 25 years, and had had ten pregnancies. She complained of pain, abdominal swelling, and interference with by Dr. Bruce Low and others on the disease and to the classic work of Hirsch on its epidemic history he would, he said, confine himself to the one question of its infectivity. He admitted that the medical officer of the Local Government Board in 1888, Professor Osler, Dr. Latimer in America, and the late Dr. J. S. Bristowe, Dr. Hilton Fagge, and Sir Burdon Sanderson held that it was not directly communicable or only so in a slight degree, Sir Burdon Sanderson's conclusions being based on his observation of a great epidemic on the lower Vistula in 1865. Yet, since there was no suggestion of its being water-borne or conveyed by insects, the behaviour of the disease in epidemics could not be explained save by direct personal infection or conveyance by fomites. If so, the consideration of the best means for its repression was an urgent duty, for so far as official returns could be relied on it was greatly on the increase in this country and in America, while it had long been prevalent in Russian and Prussian Poland, and outbreaks were constantly being reported everywhere from Norway to New South Wales and from Ceylon to Nigeria. Dr. Farrar then proceeded to adduce evidence of the infectivity of cerebro-spinal fever in the occurrence of multiple cases in single houses, the implication of "contacts," especially of attendants on the sick, and its conveyance by persons, either themselves or by means of their clothing, to others, often in distant and widely scattered villages, as reported by Dr. Gifford of Boston, U.S., in 1873; Bolton Corney in Fiji in 1888, Friis of Copenhagen in 1891, and still more recently by E. Sweet about Crowborough, Hope Reford in co. Down, Ch. Boldman and Mary Goodwin of Boston, U.S., Walker around Spilsby and Arthur in the Easington rural district; the last two he treated in detail. Hirsch, in a paper read before the society, came to an opposite conclusion from Sir Burdon Sanderson in regard to the epidemic of 1865. Though cases were on record of outbreaks in which either the garrison or the civil population of the town was alone attacked, there appeared to be a special tendency to the occurrence of epidemics in barracks and to the spread of the disease by the movement of troops from infected to healthy places and *vice versâ*. Bouet in 1841 to 1849 collected a large number of such instances occurring at Orleans, Strasburg, Marseilles, Avignon, Nimes, and other places, Petersen at Berlin in 1896, and Jaeger at Ulm in 1893–99. Although intracellular micrococci were not easily kept alive *in vitro* there was reason to believe that in a mucous or albuminoid covering they might, even when dried, retain their vitality for long periods. Jaeger obtained cultures from the dust of the floors of the barracks at Ulm after 96 and 127 days and gave instances of infection otherwise inexplicable, and Germano and Max Neisser classed Weichselbaum's diplococcus among organisms most resistant to drying. When the severest cases alone were taken into account the fatality was over 50 per cent., but a very large number of milder cases erroneously diagnosed or even unnoticed would, if duly included, reduce the percentage considerably. The extreme virulence of the infective material in some cases might be due to the symbiosis of other cocci, as the micrococcus catarrhalis or Fraenkel's diplococcus of pneumonia. The rapidity with which this virulence was lost by successive cases in the course of an epidemic and during convalescence was remarkable.—Dr. Mervyn H. Gordon said that the micrococcus of Weichselbaum, which was undoubtedly the specific organism of cerebro-spinal fever, had a distinct individuality and should always be looked for in suspicious cases. The spinal fluid yielded pure cultures and lumbar puncture was practically free from danger; it was generally present in the nasal mucus, mostly mixed with micrococcus catarrhalis, and might be found in the blood. Elser of New York found it in 7 per cent. Its characters were well marked; it was essentially intracellular, negative to Gram's stain; its colonies in broth were large and smooth and translucent, would not grow on gelatin at 22° C., but flourished on nutrose acetic agar. It decomposed glucose, galactose, and maltose with an acid reaction, but not saccharose. Besides other points of difference many of the nasal micrococci were Gram positive, but micrococcus catarrhalis with a few others were negative and might be confused, though micrococcus catarrhalis was, as a rule, larger, its colonies were more opaque, grew well on gelatin at 22° C., and with sugars gave a strongly alkaline reaction. It, too, might be intracellular and distinctly tetrad, so that the reaction with saccharine media alone sufficed for determination. Both were liable, especially on broth, to become streptococcal or staphylococcal, as, indeed, were all micrococci, and the colonies in agar were surrounded by a halo which was broader than in the meningococcus. The pneumococcus was positive to Gram, its colonies resembled but were smaller than those of the meningococcus, and in albuminous fluids it appeared as diplococci in capsules. The cocci were often so elongated as to resemble bacilli. Experiments with disinfectants variously diluted on equal quantities of cultures of the meningococcus and the effects noted at the end of 30 seconds' and three minutes' contact respectively showed that medical izal was twice as efficient as mercuric chloride or potassium permanganate in practical solutions. Gargling for five minutes with 100 cubic centimetres of izal, liquor chlori, or permanganate of potassium in various dilutions was followed by a reduction in the number of bacteria in the pharyngeal mucus to the extent of 80 or 90 at the end of the first hour, but after another hour the numbers were nearly, or quite, as great as at first. According to the results so far obtained medical izal was best *in vitro* and permanganate of potassium best *in vivo*, 1 in 200 of permanganate of potassium being rather irritating but most efficient, 1 in 1000 not irritating and fairly efficient, whereas 1 in 10,000 of permanganate of potassium showed some reducing effect one hour later but not (as 1 in 1000) still perceptible two hours later.—Dr. T. J. Horder considered that a careful study of the sporadic cases might throw much light on the origin of epidemics. Books described them as mild, but they were often *foudroyant*, as that of a medical man who recently was attacked at a hotel and died within 48 hours. His spinal fluid swarmed with the cocci, but there had not been time for the development of meningeal phenomena.—Dr. F. E. Fremantle regretted that no official inquiry was being conducted in Nigeria where, as he had heard from his brother, the natives were dying by thousands and several medical men had succumbed.—Dr. Tatham cautioned the members against attaching much value to the official returns of the mortality; the diagnoses were most untrustworthy.—Dr. Farrar, in reply, said that not only sporadic cases but epidemics might be caused by other organisms than the meningococcus of Weichselbaum.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A meeting of the Northern and Midland division of this society was held at the Borough Asylum, Rowditch, Derby, on April 19th, at the invitation of Dr. S. Rutherford Macphail, who presided.—After routine business there was some discussion on the proposal to unite with the London medical societies in forming a Royal Academy of Medicine. The following motion was carried:—

> Seeing that the Medico-Psychological Association is a national organisation with membership in England, Wales, Scotland, and Ireland, and that the proposed Academy of Medicine appears to be a purely London institution, the Northern and Midland division does not see how any affiliation is possible.

—Dr. Nathan Raw (Liverpool) read a paper on the Mental Disorders of Pregnancy.—Dr. John Richards (Leicester) read a paper on the Histology of Some Cerebral Tumours, in which he first gave a brief account of the clinical histories of three cases of cerebral tumour and then considered their histological features in detail. The first two were cases of rapidly growing tumours of under 12 months' duration and scarcely to be distinguished microscopically from small round and spindle-celled sarcomata. The tumour in the third case was probably of several years' growth, and was composed of well-formed glial cells and fibres closely resembling the normal elements of the neuroglia. Dr. Richards dissented from the view that gliomata were derived entirely from epithelial tissue and held that neuroglia elements also took a part in their formation.—Dr. W. Harding (Northampton) then opened a discussion on the Training and Registration of the Asylum Nurse. After stating what he considered ought to be the minimum training of an asylum nurse he mentioned that a three years' course of training had been in existence at Berry Wood for 16 years but that only about 16 per cent. of the nurses who entered the service gained the certificate. He spoke in strong terms of the inadequacy of the system of training and examination of nurses carried on by the Medico-Psychological Association. He pointed out that the only thing in which there was uniformity was the written examination, the least important method of gauging a nurse's efficiency. There was, however, no uniformity in the more essential parts of the examination while the candidate might actually have of such laboratories to produce over and above the ordinary routine examination of morbid products necessary for the immediate treatment of the patient.

The subject matter of the book is arranged on a clinical basis, the varieties of peritonitis caused by different clinical accidents, such as disease of pelvic organs, perforation of hollow viscera, appendicitis, and so on, being treated in successive chapters. A description of the technique employed shows that an examination of the peritoneal exudation was made by culture and by smear preparations not only at the seat of the primary lesion but, on every possible occasion, at points distant from the original focus, and the results obtained show the importance of this method and how extremely misleading the examinations would have been had they been confined to the neighbourhood of the original lesion.

Among the more important bacteriological results of the inquiry are the discovery of the frequent presence and apparent clinical importance of a staphylococcus albus believed to be identical with Welch's staphylococcus epidermidis albus, the rehabilitation of the bacillus coli as one of the most important organisms in the causation of peritonitis, and the failure to find any support for the teaching that anaerobic organisms play the most important part in some varieties of peritoneal infection. In gastric ulcer a streptobacillus was isolated in every case from the edge of the ulcer, but it is not pretended that this organism has been proved to be the cause of the disease. The staphylococcus albus is an organism of low virulence, found at points of the peritoneum distant from the primary lesion and leading to an active local leucocytosis and phagocytosis. Its presence is regarded by the authors as justifying a favourable prognosis, as modifying largely the virulence of the bacillus coli often associated with it, and as contra-indicating too active flushings and washings of the peritoneum in the treatment of those cases in which it occurs and in which it sets up a protective phagocytosis. The influence of this organism is the subject of a special experimental research incorporated in this book. The bacillus coli, as has already been mentioned, is regarded as of great importance in the causation of peritonitis and especially in that form of it which is associated with appendicitis. The virulence of the organism in different cases and of the different strains isolated from the same case varies greatly. A startling result obtained by the authors was that 55 out of 74 strains of bacillus coli isolated were non-motile and motility was not acquired by cultivation on various media nor by passage through animals. The occurrence of this organism alone and not localised is of bad augury for the patient, but the prognosis is improved if the bacillus coli is localised and especially if it is associated with the staphylococcus albus. Other organisms found were the streptococcus pyogenes and the diplococcus pneumoniæ leading to an invariably fatal result, and the bacillus pyocyaneus also of serious import. A short chapter deals with the rôle of the phagocytes in peritonitis and the conclusion is reached as the result of experiment that not only is the small lymphocyte phagocytic but that the eosinophile cell possesses phagocytic properties of the greatest importance.

The book is a valuable contribution to the scientific study of peritonitis and forms a solid basis for conclusions of value for prognosis and treatment.

Précis de Diagnostic, Clinique, Microscopique et Parasitologique. Par les Docteurs JULES GUIART et L. GRIMBERT. Paris: F. R. de Rudeval. 1906. Pp. 960. Price 15 francs.

THE authors of this manual state that no similar work exists in French medical literature. They have undertaken to produce a book dealing with modern methods of clinical investigation which owe their origin to chemistry and other branches of natural science. In the preface, which naturally, perhaps, tends to the glorification of their subject, they refer somewhat slightingly to those members of the medical profession who are content to ignore the advances of the methods of the laboratory. In fact, they compare the point of view to that of a surgeon who in these days might scorn the methods of antisepsis and asepsis. While we may urge that perhaps they attach too little importance to clinical methods of investigation of disease, there can be no doubt that they have succeeded in producing an admirable handbook. They deal in turn with general methods of investigation, such as bacteriology, in connexion with which they describe in detail the various methods of fixation, colouration, and measurement. In the second part of their volume, in separate chapters, they deal with the following subjects: the blood, pus, pathological liquids, milk, nasal secretions, and expectoration; the examination of material derived from the mouth, the pharynx, the stomach, the intestine, and the liver; with diseases of the skin, the ear, the eye, and the genital organs, and with the urine; while a concluding chapter is devoted to the various reagents employed in chemical analyses. The volume is profusely illustrated, both with plates of instruments employed in the various methods of research and with numerous coloured plates which fairly depict microscopical appearances; these latter are perhaps too diagrammatic—in fact, the illustrations generally sacrifice colour to clearness.

In the section relating to the examination of the blood the information is full and the directions are lucid, while throughout the volume the ease of diction facilitates the work of the student. The principle adopted is to describe normal conditions at some length before proceeding to the consideration of the modifications due to disease. Thus in the section on the blood the methods of enumerating the red corpuscles are given at length before the variations in size and shape are described. Necessarily much space is devoted to the modifications which leucocytes undergo. Then non-parasitic diseases of the blood are dealt with and the bacteriology is considered, typhoid fever, cholera, plague, dysentery, Malta fever, pneumonia, and tuberculosis being described under the heading of Serum Diagnosis. Much space is given to the description of the changes in the blood in malarial conditions, the diagrams in this connexion being extremely serviceable. Small figures are given of trypanosoma Gambiense, spirochæta Obermeieri, as well as of other parasitic conditions affecting the blood. The section relating to pus appears somewhat brief after the fulness of detail of the preceding section. Greater space is, however, given to a description of the methods of examining various pathological liquids. Thus the modifications of fluid removed from the pleural cavity are described in detail with the assistance of numerous illustrations. Reference may also be made here to the description of the examination of the fluid removed from hydatid cysts. The illustrations of the scolex and of the booklets should be especially welcome to students. It is interesting to find that much space is devoted to the macroscopic examination of expectoration from which valuable information may be derived without the necessity of laboratory investigation. Full details are, however, given of the microscopic appearances connected with different diseases, the bacteriology also being elaborately supplied with diagrams.

We do not attempt to indicate categorically the fulness of detail in this text book. We would, however, call attention to the excellence of the illustrations of the parasites connected with the various affections of the skin, while we must confess to some surprise at the tests for albumin in the urine, which do not strictly accord with those commonly employed in this country. The latter are mentioned in small print as being of minor importance. In conclusion it may be remarked that, although due cognisance is taken of the bladder and rectum. Two masses reaching the umbilicus were felt in the abdomen, the larger being continuous with a mass filling the *pelvis. On opening* the abdomen the larger mass was found to be a cervical fibroid, the smaller one being the uterine body. The fibroid was enucleated. An opening was made into the vagina and the bed of the tumour was drained into the vagina by gauze packing, the peritoneal cavity being completely closed. The central portion of the tumour was undergoing a form of degeneration closely resembling sarcoma. The second patient was 47 years of age and the mother of seven children. She complained of an abdominal swelling of six months' duration. Menstruation was regular. The tumour was a fibroma of the ovary weighing 4 pounds. The abdomen contained some ascitic fluid.—Dr. D. Lloyd Roberts (Manchester) mentioned the case of a patient, aged 28 years, who was admitted to hospital at the fifth month of pregnancy with a Retroverted Uterus. There had been dribbling of urine for five days and on a catheter being passed 80 ounces were withdrawn. The bladder was kept empty but necrosis of a portion of its wall occurred and the patient died five days later.—Dr. W. Blair Bell (Liverpool) showed some Light and Useful Retractors for Pelvic Surgery, the blades being constructed of stiff wire and having large fenestræ.—Dr. H. Briggs and Dr. J. H. Willett described two cases of Multiple Fibromata in which there was polypus formation due to the extrusion of fibroids into the uterine cavity, accompanied by adeno-carcinoma of the endometrium.—Dr. A. Stookes (Liverpool) mentioned a successful case of Cæsarean Section for Pelvic Contraction in which the pulse suddenly ran up to 160 per minute at the end of the operation. The same evening the patient's temperature was 103° F. and the pulse 140 per minute. No cause for this could be ascertained and the patient's condition became normal within six days.—Dr. W. Walter (Manchester) showed a specimen of Pyosalpinx with Adherent Appendix Vermiformis.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 24th, Dr. A. Mantle being in the chair.—Dr. A. Bronner showed: (1) A case of Cerebellar Abscess; and (2) a case of Plastic Operation for loss of the Left Nasal Ala.—Dr. T. W. Hime showed an Improved Wash Bottle.—Dr. F. W. Eurich showed a patient with Erb's Paralysis.—Dr. Bronner read a paper on Epistaxis, in the course of which he drew special attention to the following points: (1) in all cases of *epistaxis* the nares should be carefully examined; (2) the bleeding point would in most cases be *found to be on the anterior part of the* nasal septum; (3) that epistaxis was often due to constitutional disease and to nasal obstruction; (4) it was very dangerous to leave a plug in the nares for more than 24 hours; (5) before and after any intra-nasal operation the nares should be, so far as possible, thoroughly *disinfected and all instruments* carefully sterilised and the nostrils then plugged with antiseptic gauze for 24 hours to prevent hæmorrhage, especially if adrenalin had been used; and (6) the extreme usefulness of the application *of hot water, ferripyrin, and peroxide* of hydrogen for arresting hæmorrhage.—The paper was discussed by Dr. T. J. Wood, Dr. W. Mitchell, Dr. Hime, Mr. R. Mercer, and Dr. Mantle.—Dr. Bronner *then replied.*—Dr. Mitchell read notes of a case believed to be Internal Anthrax treated with Sclavo's serum. The patient recovered. He pointed out how impossible it was to *discover the* bacillus in the blood until just before death and how important it was, *therefore*, in any case of suspected internal anthrax, to begin serum treatment early and to use large quantities. He insisted that they had as much right *to diagnose* internal anthrax from symptoms only as they had *to diagnose* many other well-known diseases where the bacillus was not in evidence—e.g., scarlet fever and measles. It was manifestly unfair, he said, *to* say a case was *not* internal anthrax because it recovered.—The *paper* caused a very interesting discussion, in which Dr. J. H. Bell, Dr. Eurich, Dr. Hime, and Dr. H. J. *Campbell took* part.—Dr. Mitchell then replied.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting *of this* society was held on April 6th, Mr. Charters J. Symonds, the President, being in the chair.—Dr. H. J. Davis showed a case of Sudden Loss of Voice of 14 days' duration, for diagnosis. The left cord was fixed. *Opinions* expressed were in favour of it either being due to tubercle or syphilis.—Dr. Davis also showed a man suffering from Nasal Obstruction following Facial Paralysis. The condition had improved under *electrical* treatment.—Dr. E. B. Waggett exhibited a case of Absence of the Right Choana.—Dr. StClair Thomson exhibited a patient, aged 16 years, with Laryngeal Stenosis. The case was shown for diagnosis, which rested between functional spasm or bilateral paralysis. He was inclined to view the case as one of functional spasm.—Dr. A. Logan Turner exhibited specimens and drawings showing various pathological conditions of the Nose and Throat.—Mr. P. R. W. de Santi showed a patient with a large Cauliflower Growth of Malignant Nature in the Nasopharynx *and an enlarged deep-seated* Gland in the Neck. The case was regarded as inoperable. It was recommended to put the patient on iodide of potassium.—The President showed a patient with Carcinoma of the Naso-pharynx, which he *regarded as inoperable.—Cases were also shown* by Mr. H. W. Carson, Dr. E. Furniss Potter, Dr. J. Donelan, and Dr. J. Dundas Grant.

THERAPEUTICAL SOCIETY.—A meeting *of this society was held* on April 24th, Sir T. Lauder Brunton being in the chair.—Dr. James Burnet read a paper on the Therapeutic Action of the Iodides, showing that they were alteratives which influenced metabolism and secretion. He said they had long been used against syphilis *and scrofula* and more recently *for* gout, *rheumatism*, aneurysm, and arterio sclerosis. They were formerly supposed to act by dilating arterioles and diminishing the blood pressure but they had no effect on the blood pressure or pulse, though they *promoted* the coagulation of the blood. He found iodopin, iodine with *sesame* oil most effectual injected under the skin, as this did not cause any gastric disturbance and the iodine was slowly set free by oxidation. It relieved arterio-sclerosis by diminishing the uric acid dissolved in the blood and thus relaxed arterioles and relieved aneurysm, if syphilitic, by removing pathological effusion and counteracting the poison. In angina pectoris it must be given in large doses, 60 grains daily for months. It was most useful in chronic pulmonary *diseases*, especially fibrosis and emphysema, relieving dyspnœa and liquefying the bronchial secretion, and it was best given in *doses* of 15 *grains at bedtime. In bronchial* asthma doses of ten grains every two hours were very useful either by relieving spasm or freeing the blood from uric acid. *In* syphilis it was most useful from its antitoxic *powers and* its eliminative action, particularly in affections of the nervous system and headache. In locomotor ataxy 120 grains had *been given* daily with the best *results*. It had also been used with success *in cases of intermittent* fever, puerperal fever, and erysipelas. In chronic rheumatism, neuralgia, lumbago, and sciatica *iodide of potassium* was often *useful, probably* by *diminishing* the uric acid dissolved in the blood; it was best combined with salicylic acid, which eliminated this acid. In cases *of effusion, especially* from interstitial nephritis or cirrhosis, iodides often were of service. In *lead or mercurial* poisoning they *removed the metal* from the tissues and caused its excretion. In simple goitre they were of great service if used early but not in exophthalmic goitre. The iodide of sodium was *less depressing* than that of potassium.

Reviews and Notices of Books.

The Bacteriology of Peritonitis. By LEONARD S. DUDGEON, M.R.C.P. Lond., Bacteriologist to St. Thomas's Hospital, Director of the *Louis* Jenner Clinical Laboratory and of the *Pathological* Laboratories, St. Thomas's Hospital, &c.; and PERCY W. G. SARGENT, M.A., M.B., B.C. Cantab., F.R.C.S. Eng., Surgeon *to* Out-patients, Victoria Hospital for Children, Chelsea; late Resident *Surgeon* and Surgical Registrar, St. Thomas's Hospital, &c. London: Archibald *Constable* and Co. 1905. Pp. 243. *Price 7s. 6d. net.*

THIS work formed the *basis of* the Erasmus Wilson lectures for 1905, the main teachings of which were summarised in a leading article at the *time.*[1] *The book* is welcome as being amongst the first fruits of the establishment of clinical laboratories in *connexion* with hospitals, being an example of work *constituting an advance* in medicine and surgery which it is the proper function convection are those picked out by the supporters of that theory as especially favouring it." But Dr. Stevens must not be classed here with the antivaccinationists who, he complains, "abuse the plaintiff's attorney," for it is only people with a bad case who resort to this, and, of course, Dr. Stevens's case is good. Further, he holds that "if aerial convection be an established fact it should show its influence round each and every small-pox hospital," but as for himself he urges that "any cases, however, in which the special incidence is to the north-east of any hospital should be rather discounted on account of the prevailing wind being from the south-west." We quote this without venturing to expound its meaning.

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[1] THE LANCET, April 1st, 1905, p. 852.

Looking to Power's view (as interpreted by Dr. Stevens) that the influence of a hospital "was most remarkable when the total admissions had not exceeded nine," it is not surprising to be told that "the same divergent views that exist as to the influence of the wind also exist as to whether the vicinal increase is greater when there are many or few cases," though on the whole it appears to Dr. Stevens that importance is attached to aggregation, and this being so the presumption is that Power, pinning his faith to nine or less, must be himself in a small minority. Also "even the supporters of aerial convection are disposed to limit this danger to acute cases." Having in this fashion set forth and criticised the views of the aerialists, Dr. Stevens hopes that in future the Local Government Board "will allow some relaxation of their previous rules and will be guided rather by the likelihood of precautionary regulations being strictly enforced than by isolation of the hospital—a matter often both costly and difficult." But it looks rather doubtful in what direction this likelihood of strict enforcement of regulations is to lead the Board, for in explaining hospital influence Dr. Stevens has previously declared that "so long as there are nurses and porters they will have their friends outside and all the regulations in the world will not keep them in." The unlooked-for conclusion would therefore appear to be that "likelihood" means not merely "unlikelihood" but actual impossibility, and that in order to minimise mischief from utterly inevitable infringement of regulations hospitals should be exceptionally well isolated and that the Board should "relax" its present rule by no longer sanctioning hospitals which have anything like 600 people within half a mile's reach of the rebellious nurses and porters.

The writing indeed is in places very slipshod, and better things in this direction might have been expected from an Oxford graduate in arts and medicine. In one of the passages we have quoted there seems an obvious slip in grammar. Referring to diagnosis (p. 64), he writes, "although the medical man in attendance may strongly suspect the disease he is unable to certify on the evidence that in his opinion it is small-pox and the ambulance authorities will not remove him unless a definite statement to this effect is made." But what good this vicarious removal of the medical man would do is not explained. The valuable information in the book and the gallant attempt to be fair-minded are somewhat frustrated by inattention to the literary requirements.

LIBRARY TABLE.

Handbook of Anatomy for Art Students. By ARTHUR THOMSON, M.A. Oxon., M.B. Edin., Professor of Human Anatomy in the University of Oxford; Professor of Anatomy, Royal Academy of Arts, London. Third edition. Oxford: At the Clarendon Press. 1906. Pp. 450 and index. Price 16*s.*—Professor Arthur Thomson's admirable Handbook of Anatomy for Art Students has now reached its third edition, a proof, if need be, that the book has been found useful by that class for whom it is written. So excellent was the book in its original form that much could not be done in future editions to improve it. In the present edition but very little has been added to the matter of the text, but several new illustrations have been included and the plates have been reproduced upon a much larger scale. In former editions the key plates applied solely to a male figure. In the present edition a photograph of a female figure in the same position as that of the male has been added. We can only repeat that every art student should possess this book and even ordinary students of anatomy will learn a great deal from a perusal of it.

Old Sea Chanties. Collected and arranged by JOHN BRADFORD and ARTHUR FAGGE. London: Metzler and Co. Price 1*s.*—The chanty is almost extinct and we are very glad that some few of these beautiful old melodies have been preserved by Mr. Bradford and Mr. Fagge. The tonality of the first chanty, "Haul on the Bowlin'," is somewhat uncertain and gives a curious effect to the ear, but it is a singularly fine melody. All the songs—there are eight of them—would be admirable for singing at smoking concerts and other festive gatherings. They can be had arranged for chorus and orchestra as well as for solo, and in this form will be found to be an admirable addition to the library of choral societies.

JOURNALS AND MAGAZINES.

West London Medical Journal.—In the April number are contained some papers of considerable interest. Dr. Neville T. Wood discusses the Treatment of Constipation and Colitis by Paraffins and Agar, the principle involved being the addition to the intestinal contents of fatty or other substances which are not digested. The method seems well worthy of trial in obstinate cases. Dr. J. A. Coutts treats of some points in Infantile Scurvy, calling attention to the advisability of surgical interference in some cases in order to prevent necrosis of bone following extensive subperiosteal hæmorrhage, and Dr. E. Furniss Potter and Mr. Richard Lake contribute practical articles on aural troubles.

The Caledonian Medical Journal (April).—The experience gained from our own errors is sometimes bought rather dearly; it is more satisfactory to learn from those of others. Mr. James L. Waters, in an interesting if discursive article, endeavours to put his experience as to errors in diagnosis at the service of his medical brethren who should profit by the hints given. Dr. Duncan Macdonald concludes his paper on the Prevention of Pulmonary Consumption in the West Highlands, noting as causes of infection the inhalation of tuberculous dust and of tuberculous matter directly expectorated, as well as the occurrence of cases due to living in houses, theoretically disinfected, which had been occupied by consumptives, and to wearing of the clothes or sleeping in the beds of such patients.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

"TABLOID" BRAND PASTILLES.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

WE have received specimens of tabloid pastilles which are a great advance on the ordinary medicated demulcent jujube. They are transparent and the demulcent basis dissolves slowly in the mouth. They are neatly packed in waterproof paper and tin boxes. The list of tabloid brand pastilles comprises a plain glycerine preparation, glycerine with black currant, tannin, cocaine hydrochloride, codeine, benzoic acid compound, red gum, rhatany, and so forth. The tabloid brand pastilles have a diameter about that of a shilling and are about a quarter of an inch thick.

all recent work, the text is rarely burdened with references. This has the advantage of rendering the book more easily readable but the disadvantage of depriving us of a bibliography from which the original sources of information can be consulted.

Scientific Memoirs by Officers of the Medical and Sanitary Department of the Government of India on the Standardisation of Antityphoid Vaccine No. 21. By Captain GEORGE LAMB, M.D. Glasg., I.M.S., Director of the Pasteur Institute of India, and Captain W. H. C. FORSTER, M.D. Edin., D P.H Cantab., I.M.S. Calcutta: Office of the Superintendent of Government Printing, India. 1906. Pp. 15. Price 6 annas, or 7*d*.

THE authors truly state that vaccination against typhoid fever has now taken its place amongst the measures of preventive medicine, its achievement being principally due to the brilliant work of Wright. That success has crowned his efforts is certain from the facts (1) that three scientific committees successively convoked to examine into the matter have decided that the statistical evidence is sufficient to show that the incidence and case mortality are reduced by inoculation; and (2) that the Germans have adopted it in the case of troops proceeding on foreign service to Africa. One of the most important problems, however, with regard to this measure is the elaboration of some method of standardisation. This problem is considered in the memoir under review.

The authors first demonstrate the various methods by which the antityphoid vaccine may be prepared, resulting in the production of "broth vaccine," "agar vaccine," or "filtrate vaccine." They then proceed to the question of standardisation and tell us what is meant by the term, using the definition of Wright for this purpose—namely, "Standardisation involves on the one hand the determination of the amount of immunising element contained in a standard volume of the vaccine material; on the other hand, the adjustment of the dose administered to the resisting powers of the man or animal submitted to the inoculation." The first problems to be settled are the nature of the immunising element of the vaccine and the manner in which it accomplishes its object. The immunity induced by antityphoid vaccination is, in the main, a bactericidal immunity due to an increased power of the individual to kill the typhoid bacteria by his body fluids, which increased power is again due to an increase in the specific amboceptor or immune body in the body fluids. The body also after inoculation probably acquires a habit of producing these protective substances on a stimulus of a much slighter nature than before the inoculation; in addition there is no evidence of an antitoxic immunity. The power of any vaccine to increase the quantity of immune substance in the body fluids depends upon the number and avidity of the receptors contained in a unit quantity of the vaccine, and therefore, when the proportion of free immune body which can be fixed by the receptors of the vaccine without danger to the organism can be estimated, the problem of determining the optimum dose of an antityphoid vaccine will be solved. Towards this end therefore must first be established a method of measuring the receptor content of any vaccine, which is the true basis of standardisation of all antityphoid vaccines. The authors examine in this light the methods previously used and point out the various objections that can be raised to them. They then state that in order to comply with the first proposition of the definition of standardisation above stated the absolute receptor content of a vaccine must be determined. Next they show that the adjustment of the dose of any antityphoid vaccine to the average resisting powers of man can only be estimated by direct experiment, and such an experiment is already in progress under the direction of Lieutenant-Colonel W. B. Leishman. The authors conclude their interesting memoir by detailing a method which they have elaborated with the view of standardising every vaccine used against a standard vaccine obtained as the result of this direct experiment. The technique is duly set forth and as the result of their researches they conclude that the broth vaccines possess three and four times the bactericidal power of the filtrate vaccines.

This volume of the Scientific Memoirs, though short, contains an immense amount of intricate work and reflects the greatest credit on the authors.

Small-pox, its Dissemination and Prevention: Thesis for Degree of Doctor of Medicine. By FRANCIS JOSEPH STEVENS, M.A., M.D. Oxon., M.R.C.S. Eng., D.P.H. R.C P.S. Eng., sometime Exhibitioner of Exeter College, Oxford; Medical Officer of Health to the Metropolitan Borough of Camberwell, &c. London: Henry Frowde. 1906. Small 8vo, pp. 128. Price 2*s*. 6*d*. net.

Dr. Stevens's graduation thesis consists of a short introduction and three chapters, entitled "I. The Dissemination of Small-pox"; "II. Aerial Convection"; and "III. The Prevention of Small-pox, Inoculation and Vaccination, Vagrancy." Chapter I. begins by a criticism of the view that small-pox is one of the most infectious of diseases. A variety of instances are quoted in which exposure to infection did not result in attack, as, for example, an out-patient at the Edinburgh Royal Infirmary with the rash fully out who yet caused no extension of the disease, and a recently confined woman suffering from unrecognised variola in Camberwell who held a constant levee but infected "only eight of her neighbours." Notwithstanding all such evidences of slightness of infectivity, especially of mild cases, Dr. Stevens argues that it is possible that in presence of a mild type of epidemic, unrecognised cases may spread the infection far and wide, and he says that there can be little doubt that the perambulation of mild cases is the chief cause of the dissemination of small-pox in London. Excepting as to their clothing, he condemns the view that "contacts" are a danger to the community, a view which, he says, has apparently been advocated in all seriousness by Littlejohn and is supported by Priestley and in Leicester, where the so-called system "includes this quarantine for 14 days as one of its regulations."

The reader turns to the chapter on Aerial Convection with some interest to learn whether the author holds that such cases as he has instanced of the frequent escape of "contacts" from infection, especially from mild cases, tend to support, by exclusion, the theory of aerial dissemination and to discredit the view that hospital influence is always to be explained by intercourse. The answer is in the negative; Dr. Stevens here holds that intercourse is the sole explanation. Concerning the influence of aggregation of cases, he says that Power at first arrived at the conclusion that recent epidemics had shown a nearly constant relation between the amount of hospital admissions—especially a sudden increase in the number of acute cases—and the prevalence of small-pox, but that in a later report in 1884 "he comments on a new factor" which had appeared —namely, "that the excess of small-pox incidence on a neighbourhood was most remarkable when the total admissions to hospital had not exceeded nine." Regarding the influence of wind and weather Dr. Stevens states that there is a somewhat startling difference in the conclusions of those who hold the aerial theory, Power and McVail pinning their faith to calm weather and fogs, while other observers (apparently Buchanan and Thresh, for example) "contend a wind much more readily favours the conveyance of the poison." Dr. Stevens's own conclusion regarding the manner in which this subject has been approached by those from whom he differs is that "indeed, from the diversity of views on the subject of weather influence it would seem as if those existing at the time of the supposed aerial

THE LANCET.

LONDON: SATURDAY, MAY 5, 1906.

The Administration of the Vaccination Acts.

THE recent debate in the House of Commons upon the subject of what is erroneously termed "compulsory" vaccination was not an altogether edifying spectacle, more especially as those who could have enlightened the House as to the facts and as to the administration of the statutes were either absent or unable to speak. Mr. LUPTON's proposal that "vaccination ought no longer to be obligatory on those who regard it as useless and dangerous" was a far from exciting, or even interesting, topic for debate, seeing that since the introduction of the Act of 1898 there is absolutely no compulsion upon those who can satisfy the magistrate that they have a conscientious objection to vaccination. That this is the case is shown by the dying out of the demonstrations which were not uncommon prior to 1898 and the absence of any unfomented and spontaneous feeling against the existing provisions. In the interests of truth and equitable legislation it is much to be regretted that neither Mr. WALTER LONG nor Sir WALTER FOSTER, both of whom are familiar with all the facts, were afforded an opportunity of bringing before the House the excellent results, in the country generally, of the working of the present Act, while we cannot but express our regret that the medical Members of the House did not evince some active interest in a subject which touches so deeply the health of the people.

In these circumstances the speech by Mr. BURNS must, we think, be regarded as a thoroughly statesmanlike pronouncement. Although we may have reason to differ sharply from him in the future we take this opportunity of congratulating him upon the administrative judgment which, as practically the Minister of Public Health, he displayed on this occasion. Mr. BURNS is, all must recognise, in a somewhat difficult position in matters which in their equitable adjustment call for scientific knowledge and an entire absence of passion, but his attitude has up to the present indicated a desire to master his subjects and to deal with them not solely for the benefit of the ignorant. He has obviously no sympathy with the loafer and has no desire to see the population replenished solely from the unfit. But he has, we know, the keenest sympathy with the fighter and with those who by their efforts have raised themselves from the mass. He has told the world in the brief autobiography contained in the last edition of "Who's Who" that he "came into the world with a struggle, struggling now, and prospects of continuing it," an intelligible if elliptical assertion which would indicate that he is not anxious to engender in those who work with their hands that helplessness and lack of self-reliance which promotes physical and moral degeneration. We interpret Mr. BURNS's desire to remove the administration of the measure from the hands of the Poor-law authorities to one or another of the health authorities—i.e., the district councils or the county councils (or, perhaps, he would like to see both councils play their part)—as an intention to increase general sanitary efficiency, and we see no reason why the medical profession should not so regard it. We wish to see less of that misplaced emotionalism which so often characterises the proceedings of boards of guardians when dealing with questions which relate rather to public health than to charity. We much wish that the figures had been furnished during the debate which show that there is year by year a decreasing number of persons who have failed to comply with the very lenient provisions of the present vaccination statutes by obtaining either the vaccination of their children or a certificate of conscientious objection. This fact is doubtless appreciated by Mr. BURNS and he will perhaps, in justice to those who have administered the Act, make it public when a fitting opportunity arises. As an instance of the remarkable change wrought in some places by the measure of 1898, which we have never pretended to regard as absolutely perfect, we may briefly refer to the position of affairs in the borough of Halifax, for the figures concerning which we are indebted to Dr. ARTHUR DRURY, the public vaccinator. Dr. DRURY tells us that some years ago "organised opposition was in great force, many demonstrations were held against vaccination. ...... A generation of parents had sprung up who knew nothing of vaccination from their own personal observation but who had been terrorised by the alarming statements and misrepresentations made by leading and active anti-vaccinationists." The annual number of primary vaccinations for the four years preceding 1898 was 203, 202, 158, and 199; those for the last four years (1902-05) were 1053, 2193, 2430, and 2816, a result which has been attained, we are informed, "without precipitating any hostile demonstration, and organised opposition, if it exists, is dormant. A very small percentage of prosecutions have actually taken place. Of the comparatively few conscientious objections which have been applied for it is a fact that in a number of cases vaccination has been since resorted to, although exemptions have been previously obtained for the same children." Halifax has, in fact, defeated a motion for the repeal of the Vaccination Acts, as in many families where previously objection had been strong the vaccination of the youngest child has been followed by a voluntary request from the parent for the vaccination of the rest of the children. As Dr. DRURY remarks, "The provisions of the new Act have restored confidence in the public mind in a manner which could not have been attained under the old and less costly regulations."

Mr. BURNS, in the course of the inquiry which he has promised, will doubtless have regard to this experience of *Halifax*, recently a stronghold of the antivaccinationists, which is in no sense unique, and we feel quite satisfied that his inquiry will be a thorough and an eminently fair one. He reminded the House in the course of his speech that vaccination is not now compulsory, saying that

BISQUIT'S OWN BRANDY.

(AGENCY: MERRITT, BIRD, AND CO., 11, HART-STREET, MARK-LANE, LONDON, E.C.)

THIS is excellent brandy, with a delicate elegant flavour characteristic of fine Cognac brandy. We can well believe the statement that it is 14 years old and that it is a genuine distillation of grape-wine. The results of analysis are in accordance with those given by a genuine Cognac brandy. The ethers amounted to 143 grammes per hectolitre of absolute alcohol present, while the total secondary products amounted to 314·00 grammes. The furfural amounted to exactly one gramme, a relatively small figure, indicating elimination of this substance by age. This brandy is clearly of excellent quality.

SAJODIN.

(THE BAYER CO., LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

Sajodin is described as "a perfectly tasteless and thoroughly efficient substitute for potassium iodide, free from secondary effects." It is the calcium salt of mono-iodo-behenic acid and has the composition represented by the formula $CaC_{22}H_{42}O_2I_2$. It contains 26 per cent. of iodine. The formula of behenic acid is $C_{22}H_{44}O_2$ and it occurs as a glyceride in oil of ben. In some German clinical reports sajodin is mentioned as an excellent therapeutic agent in tertiary syphilis, bronchial asthma, and arterio-sclerosis. Sajodin is a white powder insoluble in water and yields an abundance of iodine vapour on heating or when treated with nitric acid.

YAGHOURT (CURDLED MILK).

(A. E. EFSTRATIOU, 38, CHANDOS-STREET, ST. MARTIN'S-PLACE, LONDON, W.C.)

In the Paris notes in THE LANCET of Feb. 20th, 1904, p. 546, appeared an account of the milk preparation called Yaghourt which is consumed so largely in Turkey. In that country there is a great consumption of the milk of the buffalo, the common cow, the goat, and the ewe, but it is hardly ever used in a natural state. According to a paper read at the meeting of the Academy of Medicine the milk is kept at a moderate heat until its bulk is considerably reduced. After slow cooling the milk is treated with a ferment taken from the previous day's supply. In a few hours a curd forms which is called Yaghourt. The preparation is preferred to milk and it has a pleasant clean acid taste and is, of course, nutritious. Yaghourt, as well as many other oriental dishes, may be obtained at the above address, where they are prepared by a *special pastrycook who hails from Constantinople.* We made an analysis of one sample and the results showed that there were present 83·50 per cent. of moisture and 16·50 per cent. of dry solid matters containing the mineral, proteid, and fatty matters of the milk. The total acidity calculated as lactic acid amounted to 1·3 per cent. Yaghourt is thus a more concentrated preparation than ordinary milk and it is much more digestible. In the Paris note referred to it is stated that not only has yaghourt the nutritive value of milk in a small bulk but it also possesses a diuretic property which is useful in heart disease, in dropsy, and in the eclampsia of pregnancy. We also examined a nutritious sweetmeat made by the same Turkish pastrycook which is said to be made with the flesh of tender chickens, with milk, cornflour, ground rice, and sugar. This contained 74 per cent. of moisture, while the solid matters consisted of about 15 per cent. of proteid. There can be no doubt, therefore, that this preparation known as "taouk-oxou" represents a very nourishing article of food which, moreover, is very palatable.

ADALA FOOD.

(ADALA CO., 116 AND 117, HOLBORN, LONDON, E.C.)

Adala food is stated to be prepared in Norway from choice pieces of Adala Kap fish caught in the Polar seas. Most people entertain a prejudice against fish preserved in tins, but we find that this fish food was not only in an excellent state of preservation but showed absolutely no trace of metallic contamination. Moreover, the flavour of the fish prepared in the way directed was quite good. We understand that the fish soon after it is caught is put into tins and then sterilised; it makes an excellent and cheap nourishing food.

DRY GIN.

(J. & W. NICHOLSON AND CO., LIMITED, 195, ST. JOHN-STREET, CLERKENWELL, LONDON, E.C.)

The chief merit of this spirit consists in its remarkable purity; it is practically free from acidity and extractives, the latter amounting to only 0·04 per cent. As to secondary products, only ethers occurred in important quantity, while there were mere traces of higher alcohols and aldehydes and absolutely no furfural at all. The flavour of the spirit is characteristically dry, certainly as regards sugar, but it has that sweetness peculiar to gin of the finest description. Gin, as is well known, possesses diuretic properties and is one of the most useful stimulants in many pathological conditions, being absorbed and eliminated from the system with great rapidity.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 3rd, 1828

ON THE CAUSE OF THE DIFFERENCE IN THE STRENGTH OF THE RIGHT AND LEFT ARMS.

M. Lecomte lately read before the Institute of France, a paper on the superiority of strength of the right over the left arm. This physician thinks the difference owing to the position of the fœtus in the womb during the latter months of pregnancy. In by far the larger number of cases, the position of the child is such, that its left shoulder, arm, and the whole of the left side, are pressed against the bones of the pelvis; from this pressure, a contraction of the blood-vessels (a kind of atrophy of the left sanguineous system) ensues. The weakness of the left side, then, arises from this congenital *disposition.* According to M. Lecomte, it is the right side which is the weakest, when the child is placed in the uterus in the contrary direction, which accounts for those who are left handed.

WE beg to direct the attention of the reader to the following valuable communication from Dr. BUSHE, in which it will be seen that *another cure* of carotid aneurism has been effected by tying the vessels on the distal side of the tumour,

A Case where the Right Carotid Artery was successfully Tied. on the distal side of a large Aneurismal Tumour. By GEORGE BUSHE, M.D., of the Royal College of Surgeons in Ireland, and Assistant Surgeon to the Forces.[1] Some person, signing himself "A Surgeon of Chatham," *sent a superficial account* of this case to the Editor of THE LANCET, written ten days after the operation, in which he stated, that he was induced to do so, fearing that the despotism which reigns in the Medical Department of the Army, might prevent my tendering it to the public; therefore, I feel compelled to inform that Gentleman, that if he will look to the records of medicine and surgery, he will find, that some of our military medical officers have, since the appointment of the present Director General, by the publication of their experience, contributed not a little to the improvement of our art, and that so far from there being a wish in the department to crush merit, every opportunity is afforded the most junior officer to advance himself (as far as military regulations will permit) by laudable exertions.[2]

EPIGRAM[3]

*On the Patient who suddenly decamped from Guy's Hospital, and passed over to St. Thomas's.**

Rash, thoughtless man! ah, whither dost thou fly!
If death appal thee, why *such haste to die?*

Bath, April 28th, 1828.

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[1] Here follows the communication, which occupies five columns of THE LANCET and has not been transcribed.

[2] See "Looking Back," in THE LANCET, Sept. 30th, 1905, p. 971.

[3] See "Looking Back," in THE LANCET, April 21st, 1906, p. 1118.

* Vide LANCET, No. 241, p. 49.

The experts are sworn, unless this formality be waived by common consent of the litigants, and they hold a session at which the physician in charge of the case is expected to attend, and at which both the employer and the injured person are represented. They listen to all that can be told them, examine all certificates which have been given during the progress of the case, make every examination of the patient which seems to them to be required, and appeal at every step to the physician in charge and to the litigants as to whether there is anything else which they should do. They may make more than one visit, either to avoid fatiguing the patient by prolonged examination or in order to clear up any doubtful point, and they then privately settle their report and present it to the presiding authority concerned, describing the injury and giving their considered opinion as to the actual state and the probable future of the sufferer. Upon the materials thus supplied the decision of the tribunal will be founded; and the costs of the inquiry are limited by a legal tariff of the fees payable to all who are concerned.

A considerable time will probably elapse before an equally effective measure of assessing the results of accidents will be introduced into this country, and our "experts" will probably long continue their present practice of delivering independent and sometimes widely different opinions in the witness-box, opinions between which an absolutely ignorant body of jurymen must decide according to their several degrees of illumination. The results of the French practice may none the less be of great value to medical men among ourselves; and the work of Dr. VIBERT is well worthy of careful consideration and perusal. He deals at considerable length with what he describes as the neurasthenic and hystero-neurasthenic types of disease following concussion, and brings together a number of valuable reports of illustrative cases. It is noteworthy that he attaches but small importance to simulation as an element in these cases and that he regards undue readiness to suspect simulation as a characteristic of practitioners who are but moderately skilled in the investigation of nervous maladies. He also cites many cases illustrative of the amount of damage which may be inflicted by severe concussions upon organs and structures which have not been wounded in the common acceptation of the word, but which may nevertheless have undergone considerable interstitial injury, rupture of fine blood-vessels, destruction of cells, and so forth. A sudden shock communicated to the body projects the organs contained in its cavities against the walls of those cavities, and the resulting conflict between opposing forces may be productive of "lesions of commotion" which are often extremely grave. In post-mortem examinations of persons who have died comatose after injuries to the head it has often happened that only very slight injuries to the brain were discoverable by the naked eye and that general shock to the organ has appeared to be the cause of death. In some instances the individual, after an injury to the head, immediately loses consciousness and remains in that condition for a day or two, after which he may be the subject of a degree of mental confusion or even of delirium for some days more. Then the brain troubles disappear and in a short time recovery will be definite and complete. Others may sustain a similar and apparently less serious injury attended by less severe initial symptoms, but these may be followed by cerebral disorders producing permanent disability. In the presence of a recent injury to the head, the practitioner should never forget that the first symptoms afford no measure of the real gravity of the lesions, and furnish no grounds for a definite prognosis or diagnosis. In relation to the general subject of traumatic neuroses, Dr. VIBERT gives a number of valuable illustrative cases, in most of which there was a gradual but slow tendency towards recovery, and he discusses the diagnosis of such cases with great lucidity, dwelling especially upon permanent quickening of the pulse as a symptom indicating the reality of the affection. Headaches, disturbed rest with dreaming, occasional attacks of giddiness, diminished power of attention, and impairment of memory, are also described as usual symptoms, and all these will sometimes lead on to permanent disablement and obvious nervous degeneration. Dr. VIBERT'S histories are calculated to teach a lesson of caution to the practitioner and to emphasise the value of reticence as opposed to too confident prediction. They render it obvious that the actual amount and character of the injury done to the nervous centres by concussion cannot be estimated by any methods of examination which are available at or near the time when the shock itself was received.

The Paris Medical Journal.

THE movement for a better understanding and more intimate relations between France and England, known as the *entente cordiale*, continues to manifest itself in new forms. Of these not the least important is the closer intimacy which has sprung up between our French brethren and ourselves. The publication of a new periodical, the *Paris Medical Journal*, a monthly review of French medicine in English, is not an event which appeals only to medical men, only to journalists, or even only to Frenchmen and Englishmen. It is a sign that two of the leading literary and scientific forces of civilisation have recognised that science knows no national boundaries. The immediate design of the new journal is to make more widely known the work of the members of the great Paris school who are so well carrying on the torch handed to them by TROUSSEAU, PASTEUR, and CHARCOT, but at the same time it will not neglect the provincial schools. Each month will be reviewed the important communications to the Académie de Médecine and to the other societies and the articles of interest in the leading French journals and one of the French hospitals and watering-places will be described. In no capital in the world is the task undertaken so easy, for in none is there such centralisation. In Paris there is not, as with us, any confused overlapping of medical societies. There are one chief society and one chief journal for each special branch of medicine. Thus, the authoritative opinion of French surgery is to be found in the discussions of the Société de Chirurgie, while French therapeutics and medical pathology are well represented in the reports of the Société Médicale des Hôpitaux de Paris, which consists entirely of the hospital physicians. The *Paris Medical Journal* is edited by Dr. A. A. WARDEN, physician to the Hertford British Hospital, and Dr. E. L. GROS. The editorial committee the only step necessary to remove, as it were, the last vestige of compulsion is to prevent the browbeating in which certain magistrates are prone to indulge. For our part, we would take the fact of the parent's presence before a magistrate, coupled with a statement that he had a conscientious objection to vaccination, as meriting the certificate of exemption for which he seeks. Discussions upon "conscience" between the educated and the uneducated are neither fair nor edifying. But we would insist upon the attendance of the parent before the magistrate. Those whose conscience involves a danger to their fellow subjects and, perhaps, enormous financial loss to the community in which they live, may reasonably be called upon to make some little sacrifice as regards time. The cost of the certificate should, we think, be purely nominal. With reference to the expense of administering the Vaccination Acts and as to the age at which vaccination might be carried out, we shall have more to say on a future occasion, but we trust that Mr. BURNS will extend his proposed investigation so as to bring out clearly, for purposes of comparison, the cost of small-pox outbreaks to local authorities and to the trade of towns in which such outbreaks have occurred, and that he will have regard to the cost to the community of the provision of the separate small-pox hospitals necessitated by our present unprotected condition. Such hospitals might be practically discontinued had we as a people the common-sense and moral force of Germany, which is so far the only nation to succeed by vaccination and revaccination in holding small-pox in check. All these facts and the literature thereto are at the disposal of Mr. BURNS, and his excellent medical department may be trusted to give him expert assistance.

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Industrial Accidents: A Lesson from France.

THERE is a Bill at the present moment before the House of Commons having for its purpose the amendment and consolidation of the law in respect of the compensation of workmen for injuries suffered in the course of their employment.[1] The Bill does not give complete satisfaction, and we recommend to our legislators the perusal of a book lately published by Dr. VIBERT on the character, importance, and consequences of accidents occurring to workmen in the course of their occupations.[2] This work not only affords a new and interesting illustration of the general principle laid down by STERNE—that they "do these things better in France"—but also contains a large amount of suggestion calculated to be eminently useful to the many practitioners in this country who may be called upon to treat injuries to workpeople of a kind calling for compensation from their employers. The law upon this subject in France is of more recent date than that in England, but is already much more systematised as regards its application, and our neighbours have thoroughly recognised the importance of the scientific "expert" in assisting the legal tribunals in their work of equitable administration. The English Employers' Liability Act dates from 1880 and its administration leaves the settlement of disputed questions to the discretion of a jury, aided by such lights as the medical witnesses called respectively by the plaintiff and the defendant are able to throw upon the case; but the French methods of procedure, as described by Dr. VIBERT, appear far better calculated to secure substantial justice at a minimum of cost. The law was enacted in 1898 and under its provisions the workman who sustains an accident in the course of his occupation is treated by the physician of his own choice and at the expense of his employer, whose liabilities on this account are limited by a settled scale of fees. During incapacity from injury, and until he is either cured or left in some settled and permanent state of disability, the workman receives half-pay after the first five days; and he is compensated for permanent disability or impairment of usefulness in accordance with an elaborate scale in which almost every possible consequence of an accident is provided for and is assessed at a percentage upon the original value of the workman. The law makes provision for giving proper notices to all the persons affected and any differences concerning temporary payments are subject to the decision of a magistrate. When an injury has left any degree or kind of permanent incapacity, and the sufferer and the employer are able to agree touching the amount of the indemnity, their agreement is ratified by the president of the civil tribunal and is thereafter unassailable, but if they are unable to agree the case is submitted to the tribunal for adjudication and may be carried to higher courts by appeal. The first decision may also be reconsidered, after the lapse of three years, at the instance of either party, on the ground that the state of the sufferer has been shown by time to be either better or worse than was originally supposed.

An "accident of labour" is defined to be something sudden and unexpected, or manifestly abnormal in its occurrence, and therefore does not include what are described as "professional" maladies, more or less incidental to the industry pursued, such, for example, as lead poisoning in the case of painters or pottery workers. Dr. VIBERT quotes with approval the definition of Dr. THOINOT, which makes an accident comprise "every external wound, every surgical or medical lesion, every psychical nervous disturbance (with or without associated bodily lesion) resulting from the sudden effect of external violence intervening during work or in consequence of work, and every internal lesion produced by a violent effort in the course of work." He further points out that the term external violence must be made to include the effects of heat and cold, as in cases of sunstroke or of congelation. In any case in which the question at issue cannot be satisfactorily determined, either by the magistrate immediately after the accident, by the president of a tribunal called upon to ratify an agreement, by the civil tribunal, or by a court of appeal, recourse must be had to the advice of nominated experts, and for this purpose any practitioners who have attended the patient, as well as any who may be permanently employed either by the industrial undertaking in which the accident occurred, or by any assurance office concerned, are absolutely ineligible.

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[1] THE LANCET, April 7th, p. 979, and April 21st, p. 1134.

[2] Les Accidents du Travail, Étude Clinique et Médico-légale des Affections Internes produites par ces Accidents, par le Dr. Ch. Vibert, Expert près le Tribunal de la Seine, &c.

aim of the committees was to get a medical man as cheap as possible. The remuneration of the surgeon was often less than it might or ought to be. He was hampered by restrictions as to the methods of carrying on his work which were annoying and sometimes humiliating to a sensitive man. As for remedies, the operations of the medical aid associations should be confined as far as possible to members of friendly societies and their families. They should secure the services of a capable gentleman for a medical officer and having found that he was suitable he should be given the full confidence of the committee, his salary should be liberal, and nothing should be done to make him feel that he was a servant. They should not worry him with the details of petty and paltry complaints and they should by every means in their power endeavour to raise the status of their medical officers so as to make the position one that would be sought after by capable members of the profession. The meeting agreed that Mr. Webb's paper should be printed and circulated. No one, be he medical man or layman, who has read the papers which we have published under the heading of "Battle of the Clubs" can doubt that Mr. Webb's estimate of the way in which medical men have been occasionally treated is perfectly fair. If medical societies would act upon the lines which have been so well laid down by Mr. Webb the "Battle of the Clubs" might soon become as much a matter of history as that of Waterloo.

THE UNSEASONABLE APRIL.

RARELY has the month of April proved so treacherous and trying as the one which has just elapsed. This is more especially true of the southern half of England, where the changes of temperature were the most frequent and sudden, the diurnal range the greatest, and the penetrating property of the easterly and northerly winds the keenest. There has, perhaps, never been a month, even in the spring when a spell of Polar winds is one of the only certainties of the British climate, that the current of air over these islands has been so persistently from a cold, dry quarter. Until quite the end of the month there were only three days on which the wind in London and the south and south-east of England generally was not blowing from some point between north and east, while during the greater part of the time not a drop of rain moistened the parched soil of the country or flushed the drains and sewers of the towns. Regarded as a whole the temperature was not many degrees below the normal, the warmth of the earlier part of the period counterbalancing to a considerable extent the cold of the last fortnight. Happily, the month was unusually sunny throughout the whole kingdom and it is entirely due to this important fact that the temperature on many of the days when the easterly wind was keenest rose above the ordinary level for January. The sunshine was, indeed, the one redeeming feature of the month and did much to counteract the evil of the piercing winds. In Westminster and a few other localities the duration of sunshine was greater than that of any other April since the recording instruments have been in use—that is, since 1881. The nearest approach to the present record occurred during the droughty and very warm April of 1893. From the point of view of the meteorologist last month was one of unusual interest as a striking illustration of the persistency of a certain type of weather during a long period. The Polar winds were, of course, the direct result of high atmospheric pressure in the north and west and of low in the south and south-east. But why the anti-cyclone which generally lies in the neighbourhood of the Azores and frequently extends to the Spanish Peninsula and France should have moved bodily or sent out an arm so far north as Ireland and the west of Scotland to act as a barrier against the passage of the [illegible]lonic disturbances from the Atlantic across Ireland to Scandinavia, is beyond the power of the most learned meteorologists of to-day to determine. Below will be found the mean temperature and the total duration of sunshine for the month, together with the difference from the average of several selected stations:—

—	Mean temperature.	Difference from average.	Sunshine (hours).	Difference from average.
Aberdeen	44 5°	+ 0 5°	232	+ 79
Scarborough	45·5°	+ 0·5°	223	?
Clacton on Sea...	44·5°	– 4·3°	258	?
London	47·3°	– 1·0°	207	+ 93
Harrogate	43 3°	– 0·5°	193	?
Birmingham	45 3°	0·0°	167	?
Bath	46·1°	– 1·0°	223	?
Brighton	45·7°	– 1·6°	236	+ 63
Plymouth	47 3°	– 0 9°	245	+ 75
Llandudno	46·0°	– 0 5°	230	+ 77
Blackpool	44·0°	– 1·6°	224	+ 75

THE INTER-RELATION OF EDUCATION AND INFANT MORTALITY.

IT is interesting, and should be equally instructive, to glance occasionally at the reasons given—in many cases in humble, apologetic tones—for the high rate of infantile mortality that disgraces so many of our towns. A discussion took place recently at a meeting of the town council of Ashton-under-Lyne illustrative of various views. The infantile death-rate in a part of one of the wards was very high. The mayor said that a seventh of the deaths were of illegitimate children, only one of whom lived to be seven months old. There can be no question that these waifs are very bad lives. No one wants them. They are in the way; they meet with no welcome from the mother's relatives and the mother herself, if still retaining some traces of modesty, is ashamed of her offspring, and so natural affection, like the baby itself, stands a poor chance of long survival. The mayor contended that this state of things was due not to insanitary property but to social and industrial evils that should be checked. He thought that after the way boys and girls loafed about the streets such a report should cause no surprise. One gentleman attached more importance to many of the houses being absolutely "unfit for human habitation"; he thought that many of those present would not stable their animals in such places. Another expressed the opinion that the ignorance of the mothers as to feeding the infants was the greatest evil. Of course, all were right in attaching importance to what they considered chief factors in the case, but all wrong in taking too limited a survey of the difficulties under which the children of the poor in manufacturing towns begin the first twelvemonth's struggle for existence. The dwellings are unhealthy, damp, and ill ventilated in too many cases, occupied by dirty, ignorant people, at the best careless of the lives entrusted to them, and often glad enough to see those lives surely wasting away. Even without attributing sinister motives the appalling and disgraceful ignorance, left after more than 30 years' compulsory education, of everything as to the feeding and bringing up of an infant is sufficient to insure a high death-rate. The responsibility of this must fall in great part on the school authorities, being another proof of the necessity that the schoolmaster, the medical man, and the sanitarian are jointly concerned in the development of all sound educational schemes. In his recent report on the health of the borough of Bacup Dr. J. Brown says that the infant mortality is satisfactory "for a manufacturing town, but it ought to be further reduced." This seems a little contradictory, but no doubt means that however good the position may be efforts should consists of Dr. DEBOVE, professor of clinical medicine, Beaujon Hospital; Dr. DÉJERINE, professor of nervous diseases, Salpêtrière Hospital; Dr. DIEULAFOY, professor of clinical medicine, Hôtel Dieu; Dr. PINARD, professor of obstetrics, Clinique Baudelocque; Dr. POZZI, professor of gynæcology, Broca Hospital; Dr. ROBIN, professor of therapeutics, Beaujon Hospital; Dr. TERRIER, professor of clinical surgery, La Pitié Hospital; Dr. BROCQ, dermatologist to the St. Louis Hospital; and Dr. COMBY, physician to the Hôpital des Enfants Malades. Such a staff is a guarantee of good work and the first number, which lies before us, is excellent both in form and matter. The qualities of lucidity, conciseness, and precision are almost imposed on a writer in French by the qualities of the language, which is adapted to the purposes of science more admirably than our own tongue with its greater range of choice and distinctly looser methods of expression. For English medical writers the virtues which we have called essentially French are an attainment and, unfortunately, a rare attainment; but, as might be expected, they are not wanting in this English journal produced in a French atmosphere. There is an important article by Professor A. CHANTEMESSE on "Five Years' Experience with Anti-typhoid Serum." He makes out a strong case in favour of this treatment. In 3595 cases of typhoid fever treated in 14 of the Paris hospitals there was a mortality of 17·3 per cent. In the hospital "Bastion 29" under the same treatment with the exception of the use of anti-typhoid serum there were only 27 deaths in 712 cases, a mortality of 3·7 per cent. The serum caused a rapid disappearance of the diarrhœa, headache, and other toxic symptoms. Under the head of "Paris Cliniques" are a series of brief but comprehensive clinical lectures of considerable interest. The subjects are "Bile-duct Lithiasis" (Dr. CHAUFFARD); "Choledochotomy" (M. QUÉNU); "Prognosis in Acute Sero-fibrinous Pleurisy" (Dr. BARTH); "Recurrence of Vesical Papillomata" (Dr. LEGUEU); "Stovaine *v.* Cocaine" (Professor RECLUS); "Chronic Tertiary Lesions and the Value of Mercury" (Professor DIEULAFOY); and "Cerebro-spinal Meningitis" (Dr. WIDAL). There are a biographical sketch and portrait of Professor DEBOVE, Dean of the Faculty of Medicine, the first of a series of the kind. We welcome the appearance of the *Paris Medical Journal* and trust that it will have a useful career.

Annotations.

"Ne quid nimis."

THE METHOD OF PHOTOGRAPHING THE DEAD FOR PURPOSES OF IDENTIFICATION.

AT two inquests held last week on the bodies of persons unknown the coroner commented at some length on the very unsatisfactory character of the photographs of the corpses prepared by the police authorities and suggested that means ought to be taken to make such photographs more like the individuals when alive and therefore more useful for purposes of identification. The question raised by these criticisms, though it is obviously of some practical importance, does not seem to have received much attention from medico-legal writers in this country and the bulk of the literature dealing with it is of foreign origin. One of the latest and most valuable contributions to its study is a paper by Dr. Minovici which appeared in the *Archives d'Anthropologie Criminelle* of Nov. 15th, 1904. The writer, who is director of the Medico-Legal Institute of Bucharest, gives in this paper a detailed account of the apparatus which he employs for posing the body and of the methods to which he has recourse for restoring the appearance of vitality to the features, his observations on this latter point being of special interest. One of the most serious difficulties in post-mortem photography is due, as is well known, to the loss of the brilliancy of the eyes, which has a large part in determining the characteristic expression of the individual. It has been usual to deal with this difficulty by the method suggested by Dr. Gosse[1] of applying compresses to the eyes, but Dr. Minovici has found that much better results may be obtained by the use of artificial eyes, dark or light, according to the colour of the individual's iris. A natural appearance can be given to the orbital opening by introducing beneath the lids an extemporised speculum of lead foil or by fixing the upper lid to the ball of the eye by means of a fine pin. The jaws can be drawn together with thread and by appropriate arrangements of pins various emotional expressions can be given to the face. Even in cases where putrefactive changes have occurred, if there has been no actual loss of substance, the features can be in a large measure restored if the gases in the areolar tissues are evacuated through suitable incisions in the scalp and in the buccal mucous membrane. By the application of these methods in a case where the body had been immersed in water for six weeks Dr. Minovici succeeded in getting a photograph sufficiently life-like to establish the individual's identity. Photographs showing the successive stages in the preparation of the body in this case are reproduced in the paper and give a striking illustration of the value of Dr. Minovici's ingenious artifices.

THE FRIENDLY SOCIETIES MEDICAL ALLIANCE: AN INTERESTING PAPER.

THE twenty-seventh annual conference of the above-mentioned organisation was held at Cambridge on April 16th. The Medical Alliance is a union of medical societies belonging to the friendly societies of the country and, as might be expected, most of the discussions at the congress had to do with the relation of medical aid associations towards their medical men. Some of the speakers showed that they were not very well acquainted with the duties of the General Medical Council and to the relation in which this body stands towards the medical profession. One speaker, for instance, referring to the difficulties which have lately arisen in Sheffield between the medical men and the Medical Aid Association of the Friendly Societies, is reported as saying that the "local body," which we suppose means the local practitioners, "in Sheffield appeared to be a branch of the General Medical Council." The most notable feature of the meeting from our point of view was a paper entitled "One of Our Difficulties," read by Bro. H. R. Webb of Banbury. Mr. Webb stated that the medical officer question was possibly the greatest difficulty that their association had to face and that members of the medical profession in many ways showed their want of sympathy with the friendly societies medical aid organisations. He then went on to inform his audience that in his opinion there were reasons for that which were more or less justifiable from the point of view of the profession and he thought that some of the causes of the trouble might be found to rest with medical associations and their management in the past. When medical aid associations were established the were found in the spleen, the lungs, and in the bone marrow, but not in the liver and kidneys. The cultural and staining reactions of the diplococcus were carefully studied and it was identified as the Fränkel-Weichselbaum pneumococcus, this conclusion being confirmed by inoculation experiments. The explanation offered of the frequency of such joint infections in infants is the peculiar structure and vascular arrangements of the bony rudiments of the joints, for, as shown by Neumann, the capillaries of the bone marrow in infants are of larger calibre than the smallest arteries, whereby the blood current is rendered extremely slow and the deposition of infective organisms in the tissues is favoured. The clinical features of the condition are described as being somewhat characteristic. The skin, especially of the face, is usually pale in spite of the fever, which is usually irregular; the temperature fluctuating between 37° and 40° C. There may be little or no disturbance of the appetite or digestion and the child may sleep well. This condition, as previously noted by Mr. Dudgeon and Dr. Branson, is somewhat suggestive and Dr. Herzog agrees with their description. The local condition is that of marked swelling and œdema around one of the larger joints, often involving almost the whole limb. There are tenderness on pressure and often increased heat but there is as a rule no circumscribed redness and this is an important distinguishing feature between pneumococcic and other forms of arthritis. In rare cases there may be an abnormal mobility of the joint. The pus when obtained by puncture of the joint is found to be non-offensive, of creamy consistence, greenish-yellow in colour, and frequently deposits threads of fibrin. The diagnosis of the condition is as a rule not difficult and can readily be confirmed by bacteriological examination of the pus. It has to be distinguished from gonorrhœal, syphilitic, and tuberculous arthritis and from joint affections due to the staphylococcus and streptococcus In the two latter conditions the general symptoms are much more severe and the local conditions are associated with more inflammatory redness of the skin. The prognosis of the condition is serious but under appropriate treatment complete recovery is possible Among the 28 cases in the literature 14 recovered, 11 died, while in three no statement is given of the ultimate results. The treatment is obviously surgical. Salicylates are useless. The evacuation of the pus by aspiration is but rarely successful and should not be relied on as valuable time may be lost. The best plan is a thorough opening of the joint, evacuation of the pus, and the removal of the fibrinous threads, which have been described as "veritable nests of diplococci." The wound should be drained for two or three days.

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[1] La Photographie après Décès. Geneva, 1895.

THE PREVENTION OF INFANT MORTALITY.

How best to educate mothers who by their lack of knowledge in the rearing of children help considerably to swell the infant mortality-rate is a question which is exercising the minds of all who appreciate the importance of the matter to the nation. The mayor of Huddersfield has for some time directed his attention to the subject and his efforts to educate nursing mothers in the care of their children have been already attended with not a little success. He has now in conjunction with the medical officer of health of Huddersfield issued in pamphlet form an open letter addressed to the mothers of that town in which, after referring to the successful work of the mayor of Villiers-le-Duc in France in connexion with the hygienic nursing of infants, he gives some useful recommendations for the proper care of young children. Many of these recommendations if put into practice will not only conduce to the health of the infant but also to the comfort and ease of the nursing mother herself by relieving her of much unnecessary work and anxiety. The remarks with regard to bedding are particularly worthy of consideration. It is suggested that the best cot is a basket covered with a large napkin on which is placed a thick bed of bran. The sheet should be simply placed upon the bran, the portions soiled by urine being continually removed. The suggestions with regard to food might be read with profit by most mothers and we quite agree with the recommendations with reference to fresh air. The letter concludes with an excellent practical piece of advice—

> Mothers waste a lot of time in wheeling a perambulator about, unless it is done as exercise for the mothers. The baby will get just as much good if it is put out of doors on the "*door stones*," or in a bit of garden, where there is fresh air and sunshine, just taking care to avoid direct exposure to sun and wind, it is not even necessary to have a perambulator, put the baby out of doors in a clothes basket nicely covered and sheltered and let it have full measure of fresh air. Only do not put the basket near a sink or a drain trap.

The letter is headed by the appropriate quotation—

> "Blest the babe
> Nursed in his mother's arms, who sinks to sleep
> Rocked on his mother's breast; who with his soul
> Drinks in the feelings of his mother's eye"—

And we may add blest, too, will be the mother who rears her offspring on the lines recommended in the pamphlet under notice.

THE INFLUENCE OF X RAYS IN MYELOGENOUS LEUKÆMIA.

THE influence of x rays on the nitrogenous metabolism and on the blood in cases of myelogenous leukæmia is dealt with by Dr. Owen T. Williams in the April number of the *Bio-Chemical Journal*. In order to determine the average nitrogenous excretion of a patient under treatment for this disease he was put on a diet containing 25 grammes of nitrogen per diem. The total nitrogen in the fæces and urine was determined by Kjeldhal's method and the uric acid by the Folin-Hopkin method. Blood films were examined each day and a leucocyte count was made on alternate days. In the case cited the average intake of nitrogen over a period of five days was 25·67 grammes and the average excretion of nitrogen in the urine was 11·39 gramme, the nitrogen in the fæces not being determined. The average excretion of uric acid was 0·4738 gramme per diem, a figure within the normal limits. In two other cases in the Royal Infirmary, Liverpool, a normal excretion of uric acid was recorded, contrary to the statement found in text-books that the excretion of uric acid in this disease is always increased. The patient was then treated with the x rays twice at intervals during a further period of six days, with the result that a loss in weight of one and a quarter pounds was observed, whereas prior to treatment with the x rays the weight remained constant. Each exposure lasted ten minutes, the first being given at 10 A.M. on the second day of the second series of observations. On the fourth day the patient vomited his breakfast immediately after taking it, so the treatment with the x rays was discontinued. The day before the first exposure the nitrogenous intake exceeded the output by 6 4 grammes; on the first day of exposure to the x rays this excess was reduced to 1·3 grammes and the day following to 0·45 gramme. On the fourth day the output of nitrogen in the urine and fæces exceeded the intake by 1·64 grammes and on the fifth day by 1·84 grammes. On the sixth day the nitrogenous intake again exceeded the output by 1·19 grammes, thus showing a gradual return towards the former condition before treatment with x rays. The amount of uric acid excreted in the urine gradually rose from 0·51 gramme on the first day to 0·9513 gramme on the sixth day. The number of leucocytes per cubic millimetre rose from 130,000 on the second day of the first series of observations to 250,000 on the fifth day of the second series, but fell again on the sixth day to 135,000.[1] This marked increase in the number of leucocytes, be made to improve it. He does not think that sterilised milk depôts will do much to diminish the mortality and may do much harm, "as it practically justifies the unnatural feeding of infants and helps to destroy the mother's sense of the wrong done to the infant." He says that the public conscience should be aroused as to "the crime of robbing an infant of its natural food, except under the direst necessity." Unfortunately, the poor mothers have too often a bad example set them by well-to-do mothers whose social or other engagements are considered as more pressing than the duty of suckling their offspring. A more wholesome and more motherly public opinion is wanted among women and Dr. Brown advocates the establishment in our textile manufacturing towns of maternity benevolent societies "to educate and train young mothers in the duties and responsibilities of motherhood." As he says: "The healthy breast-fed infant slept much and grew fat. The bottle-fed slept little, cried much, grew thin, and the majority died." The diet of the mothers might no doubt be more nutritious without increase of cost and the teapot might with advantage be ousted from its place on the hob. Without accurate statistics the injury, suffering, and death from fire cannot be computed but the danger from this source is a serious addition to the risks a young child has to run. It is not surprising that there are so many puny children in the streets of our towns, the wonder being that so many live to be old enough to play in the gutter.

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[1] Compare THE LANCET, Jan. 27th, 1906, p. 211.

SMALL-POX IN THE "THREE TOWNS."

WE have received communications concerning the occurrence of small-pox in the "Three Towns" (Plymouth, Devonport, and Stonehouse) which induce us to publish some details of the epidemic. The number of cases notified from the commencement of the outbreak in July, 1905, up to date is 214, of which a considerable proportion had been vaccinated but none had been revaccinated. In the early part of the outbreak a few cases were reported as chicken-pox which proved to be small-pox, and it is noticeable that in the Registrar-General's Report for 1904 special mention is made of the fact that this error must occasionally occur. At the suggestion of Mr. F. M. Williams, the medical officer of health of the borough and port, chicken-pox was made a notifiable disease, with the result that all the cases, for one reason or another, came before the medical officer of health. The only ones that can have escaped his notice were such modified cases as received no medical attention, and we may be pretty certain that the number has been accurately arrived at. The antivaccination spirit amongst a certain section of the public is well marked and the suggestion has been freely made, with a view to minimising the epidemic, that medical men have been notifying chicken-pox as small-pox, that being exactly the reverse of the case. The outbreak has been widely diffused, affecting the "Three Towns" in their various districts, but it has been uniformly mild in type, and with all the medical men ready and willing to assist the medical officer of health the epidemic is under complete control.

VIEW DAY AT ST. BARTHOLOMEW'S HOSPITAL.

THE traditional ceremonies of "View Day" at St. Bartholomew's Hospital will be observed this year on May 9th. A special effort is being made on this occasion to interest friends of the hospital in the work of rebuilding. The out-patient and special department block now in course of erection will be open to inspection during the afternoon and at 5 P.M. a meeting will be held in the library in aid of the funds for the projected new pathological block. In the evening at 8 30 an entertainment will be produced in the Great Hall in aid of the funds of the pathological block. It will consist of an exact reproduction of the ancient dances of the sixteenth and seventeenth centuries, with the original costumes and music of the period, and will be presented by Miss Nellie Chaplin. The entertainment has been given at various places in England but not often in London and is an artistic treat of very high order in the opinion of those who have witnessed it. Applications for tickets, price £1 1s., 10s. 6d., and 5s., should be made to the honorary secretaries, Entertainment Committee, School Offices, St. Bartholomew's Hospital, London, E.C.

PNEUMOCOCCIC ARTHRITIS IN CHILDREN.

A COMPREHENSIVE study by Dr. Hans Herzog of Heidelberg of this interesting condition with references to all the recorded cases appears in the *Jahrbuch für Kinderheilkunde und Physische Erziehung*, April 2nd, 1906. The occurrence of a purulent arthritis associated with the presence of the diplococcus of Fränkel-Weichselbaum has been recognised for some time past in this country and several papers recording cases have been published in our columns, notably one containing records of five such cases by Mr. L. S. Dudgeon and Dr. W. P. S. Branson[1] to which Dr. Herzog makes frequent commendatory references. In the present paper he records three cases which have been under his own observation and he has collected from the literature 25 others, all under the age of two years. After a careful study of these cases he finds that the condition is usually confined to one large joint, although in a few cases several joints have been affected. In the mon-arthritic group the knee-joint was involved in ten cases, the shoulder in seven, the elbow in four, and the ankle in two. In the cases where more than one joint was affected the distribution was as follows: in one case, both shoulders and the left knee; in another, both wrists and the left hip; in a third case, the left ankle and right knee; and in a fourth, the right elbow and right knee. In discussing the channel of infection Dr. Herzog points out that in 11 out of the 28 cases no evidence of antecedent pulmonary affection was forthcoming, while in eight cases of similar character in children between the ages of two and 14 years there were five cases without any antecedent pulmonary focus of the disease. On the other hand, in 55 cases of pneumococcal arthritis in adults only four occurred without pulmonary lesions. From these figures he concludes that other channels than the lung very often serve as the primary focus of the pneumococcal infection in infants and young children. The most probable primary focus is, according to Dr. Herzog, to be found in suppuration of the middle ear due to the pneumococcus. In support of this contention he quotes some observations recorded by Netter,[2] who found otitis media in 29 out of 31 necropsies on infants under the age of 30 months suffering from pneumococcal infections, with broncho-pneumonia in 12, and lobar pneumonia in one. The anatomical appearances of the affected joints are described as being in general similar to those of other suppurative varieties of arthritis, but the destructive changes are usually relatively slight and evidence of any affection of the bony structures of the joint may be difficult to discover at the time of operation although in fatal cases it can usually be made out. The capsule of the joints was distinctly thickened in the three cases observed by Dr. Herzog. A small piece of the capsule of the hip-joint in one case was examined microscopically and the capsule as a whole was found to be swollen and thickened, while the synovial membrane of the joint was infiltrated with both mononuclear and polymorphonuclear cells. A section stained by Gram's method showed a few diplococci more or less uniformly distributed through the tissues of the joint. In one case there was distinct evidence of a pneumococcic septicæmia, for the organisms tapping was employed 154 times, 385 gallons were evacuated, a quantity amounting to more than a ton and three-quarters. Lastly, in two other cases which we have mentioned three tons of serum were removed; one of these was that described by Dr. Haymaker and Dr. Graham, and the other was Paolo's case, this quantity weighing probably more than 50 times the weight of the patient. It is not improbable that some of these cases diagnosed as ascites were instances of ovarian cysts, for in several of the patients the general health seems to have suffered but little. Whatever may have been the cause of the collection of serum the very large quantities removed must have been a great drain on the health of the patient, for the loss of so much albuminous fluid must have proved very depressing. We would hardly venture to assert that the figures we have quoted have never been exceeded but 886 tappings and the removal of three tons of serum cannot often have been equalled.

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[1] THE LANCET, 19[illegible] August 1st, p. 316.

[2] Comptes Rendus de l

INFANT MORTALITY AND BIRTH NOTIFICATION.

IT appears that the Huddersfield corporation has been successful in obtaining the sanction of a Select Committee of the House of Commons to the insertion of clauses in a local "omnibus" Bill requiring, under penalty, the future notification of each birth occurring in the borough to the medical officer of health within 48 hours of its occurrence. The objections to imposing such obligation and liability to penalty upon fathers and others in a single borough by means of clauses in a private Bill are obvious, but the result of this experiment, if the Bill becomes an Act, will possess far more than local interest. It is provided in this Bill that it shall be the duty of the father of each child born in the borough after the commencement of the proposed Act, if actually residing in the house in which the birth occurs, or in his absence of any person in attendance upon the mother at the time of the birth, or within six hours thereafter, to send or to give notice of the birth to the medical officer within 48 hours after such birth. Any person so required to give such notice failing without reasonable excuse to give or to send the same is to become liable, on summary conviction, to a fine not exceeding 20*s.*, including costs, for each offence. The corporation undertakes to pay to the person who thus notifies a birth a fee of 1*s.*, and it is further provided that the obligation to furnish this notification shall be in addition to, and not in substitution for, the existing requirements of the public and general Acts relating to the registration of birth and deaths. It is further to be enacted, in recognition that this proposed legislation is only experimental, that the clauses requiring this compulsory birth notification shall cease to be in force at the expiration of five years from the date of the passing of the Act, unless the provisions shall have been continued by public Act. While it is doubtful whether the public would be favourably disposed to the general application of these provisions proposed to be enacted in Huddersfield, or whether they will answer expectations in that borough, it would not be without interest to inquire how far the past voluntary local action of the mayor and corporation, with a view to the reduction of infant mortality, has yielded encouraging results. It appears from the official returns of the Registrar-General that the deaths of infants under one year of age during last year in Huddersfield were equal to 120 per 1000 of the births registered, showing a decline of 16 per 1000 from the proportion that prevailed in the previous year, 1904, while the mean rate of infant mortality in the 76 largest English towns in 1905 and 1904 was 140 and 160 per 1000 respectively. The annual rate of infant mortality, especially in towns, is mainly governed by the summer temperature and rainfall, which in 1905 were far more favourable than in the previous year. It may, however, be noted that the decline in the rate of infant mortality last year in Huddersfield, compared with that in 1904, was equal to 11·8 per cent., whereas the decline in the aggregate of the 76 large towns was 12·5 per cent. It is disappointing to find that the energetic and exceptional efforts made by the mayor and corporation of Huddersfield[1] in 1905 do not appear to have resulted in the reduction of infant mortality that might reasonably have been expected. With every wish for the success of the proposed experimental legislation to secure prompt birth notification in Huddersfield, it may be presumed that the probability of the enactment of similar provisions operating generally throughout England and Wales must practically depend upon clear proof of their beneficial effect in Huddersfield.

THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Sir Shirley Murphy, President of the above society, will give his presidential address at the society's rooms, 1, Upper Montague-street, Russell-square, London, W.C., on Friday, May 11th, at 5 P.M. The jubilee dinner will be held at the Hotel Cecil, under the presidency of Sir Shirley Murphy at 7.30 P.M. the same evening. Many leading sanitarians and others have accepted invitations to be present—e.g., Sir R. Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London; Sir Thomas Barlow, Bart., K.C.V.O.; Sir Patrick Manson, K.C.M.G.; Sir Seymour King, K.C.I.E.; Sir Lauder Brunton; Sir Walter Foster, M.P.; Sir Francis S. Powell; Sir William H. Broadbent, Bart., K.C.V.O.; Sir Melvill Beachcroft, chairman of the Metropolitan Water Board; Sir James Crichton-Browne; Sir Michael Foster, K.C.B.; the Director-General of the Army Medical Service; Surgeon-General A. M. Branfoot, C.I.E., President of the Medical Board, India Office; Mr. J. Tweedy, President of the Royal College of Surgeons of England; the Chairman of the London County Council; Dr. Klein; and Dr. J. F. W. Tatham. It is expected that the dinner will be largely attended and members of the society are asked to apply as early as possible for tickets so that the necessary arrangements may be made. Tickets (10*s.* 6*d.* each, without wine) are to be obtained on application to Dr. Joseph Priestley, 333, Kennington-road, London, S.E., and members of the society can obtain extra tickets for any guest (or guests) whom they may desire to bring with them.

THE "INDEX MEDICUS (SECOND SERIES)."

THE "Index Medicus" was established in 1879, under the editorship of Dr. John S. Billings and Dr. Robert Fletcher and was discontinued in 1899. We wish to draw the attention of our readers to the details of the new issue of this most valuable work of reference. The present series is published by the Carnegie Institution of Washington, U.S.A., and is known as "Index Medicus, Second Series," vol. i. having been commenced in January, 1903. It is issued as early as possible after the completion of the month represented, time being allowed for the arrival of foreign journals. The editors are Dr. Robert Fletcher, and Dr. Fielding H. Garrison. This publication consists of the titles in full of books, pamphlets, theses, contributions to coöperative works and original articles in journals, transactions of medical and scientific societies, and the like, arranged under subject-headings. The titles in certain languages, as Russian, Polish, Swedish, Danish, Finnish, Hungarian, Bohemian, Roumanian, and Japanese, are translated into English. A table of contents accompanies each number and on the completion of the volume an "Annual Index of Authors and Subjects" is issued. The subject part of this annual index is elaborately subdivided, the classification closely resembling that of the occurring as it did with an increase of nitrogenous excretion and of uric acid, led Dr. Williams to conclude that the synchronous constitutional disturbance had some relation to these changes. A rise in temperature was also observed during the x ray treatment, the highest temperature recorded being 100·6°F. Dr. Williams concludes that the exposure to x rays of patients suffering from myelogenous leukæmia produces a disintegration of proteid material in the leucocytes, the products formed giving rise, in some cases at least, to grave constitutional disturbance. He suggests that when x ray therapy is being used in this disease the patient should be allowed sufficient time between each exposure to excrete the toxic products which are formed. The daily estimation of the uric acid excreted affords an indication of the length of such intervals and gives the physician a guide as to the safe dose of x rays to be used.

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[1] THE LANCET, Dec. 9th, 1905, p. 1732.

BASIS WINES.

WE note that the Chancellor of the Exchequer proposes to bring the growing industry of the manufacture of what are called basis "wines," which are manufactured in the United Kingdom and come more or less into competition with duty paid foreign wines, under Excise supervision. The importation of grape juice for the purpose of manufacturing wine in this country avoids, as we have frequently pointed out, the spirit duties, and it is surprising that the revenue authorities have not hitherto taken action summarily in this matter, since by this device they are deprived of so much duty on wine made necessarily from material imported from abroad. Moreover, the imposition of a duty on basis wines should have an excellent moral effect, since there can be little doubt that true claret has had its character considerably damaged by the unfair competition of basis wines sold under such fraudulent titles as *Bordeaux*, *Médoc*, St. Julien, and other well-known districts in France. We trust that this fraudulent dealing will be stopped by compelling the manufacturers to use a label on the bottle honestly describing the contents. We have nothing to say against basis wines in general, and, as a matter of fact, there is no reason why a wine carefully produced from genuine grape juice in this country should not be just as wholesome as a wine produced from the same juice abroad. All we ask for is an honest description of the product.

APPENDICITIS AND PERFORATED DUODENAL ULCER.

THE coincident occurrence of two important morbid processes in a patient will always raise the question whether there be any causal nexus between them. The practical rule for diagnosis is that if any single explanation will account for all the phenomena present it is to be preferred to a suggestion of a mere coincidence. In the present issue of THE LANCET is published an account by Mr. E. G. D. Milsom of a case which was under the care of Dr. John Gutch of Ipswich. The patient was certainly suffering from an attack of appendicitis and he died from the perforation of a duodenal ulcer and the question arises, Are these two independent lesions or are they causally connected? In this case there had been hæmatemesis and this has been described by several writers as occurring as a complication of appendicitis. No case appears to have been recorded of the association of inflammation of the appendix with duodenal ulcer and that fact in itself is opposed to the idea that the two conditions are connected as cause and effect or have a common cause. On the one hand each of the conditions has a certain frequency of occurrence, and neither is very rare; therefore the chance of their occurring together sooner or later in one patient is by no means small. On the other hand, we know that appendicitis is beyond doubt the effect of a septic infection of the appendix, and also that an ulcer of the duodenum is very probably always septic in origin, though digestive action of the gastric juice may have a secondary action in actually giving rise to the ulcer. Thus there is little strange in believing that a septic infection of the alimentary canal can have given rise on the one hand to the ulceration of the duodenum and on the other to the inflammation of the appendix. It is possible that a bacterial examination of the peritoneal fluid and of the appendix might show a similarity in the form of the infection. On the whole we should be inclined to think that the two conditions were associated causally.

NITRATE OF BARIUM GIVEN IN MISTAKE FOR ARTIFICIAL CARLSBAD SALTS.

THE poisonous effects of barium salts were illustrated in a tragic manner recently in a district in Germany. By an extraordinary mistake a firm in Leipsic supplied certain of their customers with barium nitrate instead of artificial Carlsbad salts and several fatalities occurred. It is a remarkable fact that this is not the first instance in which poisonous barium salts have been accidentally supplied for artificial Carlsbad salts, so the presumption is that the crystals are identical in shape and appearance. The Carlsbad town council, which is naturally anxious to uphold the reputation of Carlsbad, declared that the indiscriminate use of the term "Carlsbad salt" to describe artificial saline mixtures is a fraud. The real Carlsbad salt is a compound obtained from the evaporation of the water of the Carlsbad springs and is exported under the control of the Carlsbad authorities, so that such accidents are said to be impossible when the real Carlsbad salt is prescribed.

RECORDS IN PARACENTESIS ABDOMINIS.

IN THE LANCET of April 21st (p. 1108), we printed an account by Mr. F. H. Maberly of a patient under his care, who suffered from marked ascites and who was tapped altogether 69 times and at each tapping about two gallons of serous fluid were removed, or about 140 gallons in all. The case is remarkable both for the number of times the patient was tapped and for the total quantity of fluid removed, but a search through medical literature will show several which surpass Mr. Maberly's case, both in the number of tappings and in the total quantity removed. Dr. D. Dickinson, of the United States Navy, reported a case of a man, 28 years old, who was tapped 69 times within 17 months. Dr. Farrar recorded a case in 1885 where he tapped the abdomen 78 times for ascites. Dr. Haymaker and Dr. Graham in 1872 described a case under their care in which the abdomen was tapped 130 times within 18 years and an instance was reported in the *Bulletin des Sciences Médicale*, in which there were 154 tappings. Paolo related a case in which the patient was tapped 255 times within ten years. A case was reported in Paris in which the abdomen was tapped 300 times, but the climax is reached in the case of a woman reported by Cann to the Paris Academy of Medicine on whom paracentesis abdominis was performed no less than 886 times within 15 years, or about once a week for the whole time. When we come to consider the total quantity of fluid removed in such cases as these the amounts seem enormous. In Mr. Maberly's case the total amount appears to have been about 140 gallons, or 1400 pounds, if we take the specific gravity of the fluid as equal to that of water, but it is really a little greater. Now 1400 pounds are some 200 pounds more than half a ton. In Dr. Dickinson's case, mentioned above, the total quantity was rather less. In Dr. Farrar's case 234 gallons were drawn off and this exceeds a ton by 100 pounds. Dr. W. E. Hyde in 65 tappings removed over one and a half tons of serum, or 371 gallons, and in the case already mentioned where populations. From a table in the present report we gather that whilst among males at all ages the death-rate in the urban group exceeded that of the rural by about 5 per 1000, among females the urban excess was less than 4 per 1000. If the English counties be taken separately far greater differences of mortality will be observed. Thus among persons of both sexes in Westmorland and Oxfordshire the rate was only 11½ per 1000 of the population, whilst in Lancashire it was 20½, a difference of no less than 9 per 1000.

A most valuable portion of the report is that which forms the subject of Dr. Tatham's letter to the Registrar-General and which, inasmuch as it discusses the various causes responsible for English mortality, possesses more than ordinary interest for students and practitioners of medicine. Dr. Tatham prefaces his analysis of the causes of death by referring to the subject of disease registration, the necessity for which as a national institution has been insisted on by the Interdepartmental Committee on Physical Deterioration and the practicability of which has been affirmed by the medical officer of health of the county of London in his report for 1904. It is deplorable that the United Kingdom, which alone among the nations possesses a complete organisation for the medical treatment of the poor, and every important town of which is replete with hospital provision for the sick, should allow the accumulated records of sickness to run to waste solely because of the apathy of the authorities who are intrusted with the preservation of the public health. We hope that the suggestion now once more put forth will be adopted, and that at any rate the beginning of a system of sickness registration will be set on foot by the authorities of the London hospitals who might furnish for publication to a central bureau periodical returns of the sick cases coming under their care. We are convinced that such returns would be of great value and if an example were set by the great metropolitan institutions it would eventually be followed in all the important towns in the country. The systems of sickness registration and death registration are complementary the one to the other, and it is plain that neither of them by itself can be regarded as satisfactorily fulfilling the requirements of vital statistics. That much may be done in the direction of a national registration of sickness has already been proved by the Local Government Board—not in respect of diseases generally but in respect of those infectious diseases the notification of which to sanitary authorities is compulsory under statutory provision. Although their returns are at present marked confidential, and therefore are not available for general use, it may be mentioned that the Local Government Board now issues periodical records of the cases of infectious disease notified throughout England and Wales, so far as these can be ascertained in time for inclusion in the Board's weekly bulletin. The cost of the medical treatment of the sick whether by Poor-law institutions or by public hospitals is eventually borne by the ratepayers, and it is to be regretted that the valuable information which present circumstances might readily afford is not as yet available either for curative or for preventive purposes.

Respecting the fatality of the common infectious maladies the full particulars for 1904 provide suggestive information. Small-pox has been present during the year in less than the usual severity, but in parts of the North of England it has threatened at times to assume epidemic proportions, the mortality ranging from a rate of 16 per 1,000,000 in Lancashire to 66 per 1,000,000 in Northumberland. No estimate is offered as to the number of cases of small-pox that have occurred—we presume because of the incompleteness of the returns under the Notification Act—but it appears that in the year under notice 507 deaths were definitely referred to small pox and, what is of no less importance, that 104 other deaths were indefinitely referred to chicken-pox, most of the latter being probably unrecognised cases of the graver disease.

The mortality from diphtheria in England and Wales has steadily fallen, the present rate being little more than half of what it was five years ago. In addition to the deaths definitely returned as from diphtheria the registers contain entries of a considerable number of deaths indefinitely referred to "croup," neither "spasmodic" nor "membranous." In order, however, to obtain an approximate statement of the mortality caused by diphtheria the deaths from that disease and those from so-called "croup" are classed together. The fall in London mortality from diphtheria is especially noteworthy, for whereas in the five years ended 1900 diphtheria was fatal in the average proportion of 478 per 1,000,000 of the population at all ages, in the year 1904 the rate did not exceed 156 per 1,000,000, being considerably below the average for England and Wales. In the year 1904 the counties of Durham, Stafford, and Nottingham, together with certain of the Welsh counties, suffered most severely from diphtheria. In the first-named county the rate, which had risen rapidly throughout the five preceding years, further rose in 1904 to 285 per 1,000,000. In Wales the county of Glamorgan, with parts of Monmouth, still constitutes an area of undue mortality from this disease, the rate ranging from 202 per 1,000,000 in Cardiff to 877 per 1,000,000 in Portardawe. Staffordshire still experiences a mortality from diphtheria considerably in excess of the English rate, although since 1900, in which year the rate amounted to 526 per 1,000,000, the mortality has fallen steadily. In Nottinghamshire the diphtheria mortality has risen continuously from a rate of 131 per 1,000,000 in the year 1899 to 235 per 1,000,000 in 1904.

The eminently preventable disease, enteric fever, still continues to show less fatality in England and Wales as years go on, the disease having accounted for the lowest death-rate on record in the year under notice. Enteric fever attains its highest fatality somewhere between the ages of 15 and 35 years. At all ages except those from five to 15 years it is most fatal to the male sex. The disease is far more destructive to life in the urban than in the rural group of counties; this is especially noticeable as regards males dwelling in towns who die from it practically twice as fast as do those dwelling in country districts. Among counties containing more than 100,000 inhabitants Durham, Lancashire, the East and West Ridings of Yorkshire, and Nottinghamshire were most severely visited in the year 1904 the rates of mortality from this disease ranging from 137 per 1,000,000 living in the first-named county to 162 per 1,000,000 in the county last named. In consequence of the reported presence of cerebro-spinal fever in several parts of England special inquiries have been made as to the actual nature of the malady in cases where deaths have been certified as from cerebro spinal meningitis without further qualification. It is therefore reassuring to learn that in the last five years the deaths from "cerebro-spinal fever" have averaged not more than 55 annually. It is satisfactory to note that in the last four years only two deaths have occurred in England and Wales from hydrophobia, both of which were registered in 1902. This happy immunity from an exceptionally terrible disease is due to the proper administration of the law as regards the muzzling of dogs. In the decennium ended 1890 the deaths from hydrophobia averaged 29 yearly.

Pneumonia is one of the diseases that have shown no tendency to decline in recent years. It is probable, however, that some of the deaths which in earlier years would have been attributed to capillary bronchitis are now returned as from broncho-pneumonia, so that the increase which was recorded in 1904 may be in part apparent only. In this connexion it may be well to intimate that wherever capillary bronchitis is regarded as synonymous with broncho-pneumonia the use in medical certificates of the latter term in preference to the former will tend to increased accuracy in the records of both forms of respiratory disease.

With reference to our leading article upon this report, which appeared in our issue of April 21st, we have received a letter from a correspondent, who is, by the way, an authority on vital statistics, in which he offers a correction of a passage we quoted almost verbatim from the report itself. In this passage we refer to the difficulty of accounting for disparities in the birth-rates of the several European countries, a difficulty which would probably disappear if allowance could be made for differences in the age and sex composition of the population, especially with respect to the proportion of women of conceptive ages. Our correspondent draws attention to a fact, which we confess had escaped our notice, that in the current number of the journal of the Royal Statistical Society there appears a paper by Dr. A. Newsholme and Dr. Stevenson of Brighton in which factors are presented for correction of birth-rates for variations of age and sex distribution, so that any person may readily ascertain how much of the differences of birth-rate is due to the statistical causes alluded to in the report and how much to real differences of fertility. We gladly give publicity to this reference but in so doing we would

Index Catalogue of the library of the *Surgeon-General's* Office, United States Army. The index of the volume for 1903 occupies 187 pages in double and triple columns. The subscription price (to be paid in advance) is $5 per annum in the United States and Canada; in foreign countries, 25*s.* or marks, 30 francs or lire. Communications relating to subscriptions should be addressed: Carnegie Institution, Washington, District of Columbia, U.S.A. Communications in relation to the bibliography should be sent to: Editors Index Medicus, Washington, District of Columbia, U.S.A.

THE STATUS OF THE HAMPSTEAD GENERAL HOSPITAL.

IN our issue of April 14th we mentioned that at a meeting of the Hampstead division of the British Medical Association it was decided to call a conference of the whole of the medical practitioners in the neighbourhood upon the management of the Hampstead General Hospital. It has been decided that this conference shall be held on Saturday, May 5th, at 4 30 P.M., in the concert hall of the Hampstead Conservatoire. The agenda of the conference are to consider the resolutions passed at the meeting of the local division of the British Medical Association referred to above and to consider the circular letter and question which have recently been issued by the council of the hospital to the medical profession in Hampstead. As we have said upon a previous occasion, the matter is entirely one for the local profession to decide and we see no reason why a satisfactory solution of the problem should not be arrived at, as both the authorities of the hospital and the members of the medical profession in Hampstead itself and the surrounding district seem anxious for a settlement of the question.

AS was mentioned in THE LANCET of April 28th, Baron Takaki, F.R.C.S., will deliver a series of lectures at St. Thomas's Hospital, on May 7th, 9th, and 11th, upon the Preservation of Health among the *Personnel* of the Japanese Army and Navy. The lectures will be founded on the experiences of the late Russo-Japanese war, but Baron Takaki wishes to state that it is incorrect to describe these experiences as personal. Our distinguished *confrère* retired from active service in the Japanese navy more than a dozen years ago but he visited Manchuria during the war as a spectator.

THE annual meeting of the Invalid Children's Aid Association will be held on May 30th, at 3 P.M., at 17, Bruton-street, London, W., by kind permission of Lord and Lady Stratheden and Campbell. Sir Frederick Treves will preside and the Bishop of London and Mrs. Craigie (John Oliver Hobbes) will be among the speakers. Admission by application to the Secretary at 69, Denison House, Vauxhall-bridge-road, London, S.W.

H.R.H. the Princess Royal will lay the foundation-stone of the new buildings of the Bolingbroke Hospital, Wandsworth Common, London, S.W., to-day (Saturday, May 5th). Admission will be granted to those holding tickets for reserved seats by the "West Entrance," Wakehurst-road, but cannot be obtained before 2 P.M. or after 3 P.M. The secretary to the building committee is Mr. J. C. Buchanan.

THE ninth annual meeting of the Childhood Society will be held at 7, St. James's square, London, S.W., on Tuesday, May 8th, at 3 P.M., when an address will be delivered by Sir Edward Brabrook, C.B., F.S.A.

THE half-yearly dinner of the Glasgow University Club, London, will be given in the Trocadéro Restaurant, Piccadilly-circus, W., on Friday, May 25th, at 7.15 for 7.30 P.M., when Sir Thomas McCall Anderson, Regius professor of medicine in the University of Glasgow, will occupy the chair. Applications for dinner tickets should be made to the honorary secretaries, 63, Harley-street, London, W.

THE whole of the medical profession will share our deep sympathy with Professor Augustus D. Waller, F.R.S., director of the Physiological Laboratory in the University of London, who has lost his daughter, a child of 12, in the recent shipping disaster off Sark. Professor Waller's son, who was also on board, was saved but the companion of the two children, Miss Smith, was drowned.

THE summer session of lectures on diseases of children at Great Ormond-street Hospital for Sick Children will be opened by Mr. W. Arbuthnot Lane, who will lecture on Cleft Palate on Thursday, May 10th, at 4 P.M. The lectures are given every Thursday at 4 P.M.

WE heartily congratulate Dr. Alfred Ernest Jones upon his complete exoneration from the infamous, and perfectly incredible, charges brought against him in connexion with his official visits at the schools for defective children.

SIXTY-SEVENTH ANNUAL REPORT (FOR 1904) OF THE REGISTRAR-GENERAL.

I.

IN THE LANCET of April 21st, p. 1120, we reviewed in a general manner in a leading article the first part of the Registrar-General's report on the births, marriages, and deaths recorded in 1904. We now proceed to notice in detail that section of the report which treats of the causes and geographical distribution of mortality. Sir William Dunbar still continues his useful comparison of English vital statistics with those of our British Colonies and dependencies as well as with those of foreign countries, thus considerably augmenting the scope and importance of his work. The particulars of this comparison will be found *in extenso* at page 30 of the report; we may have occasion later to refer to the wide lessons to be drawn from these figures but for the present we will deal with the mortality statistics during 1904 of England and Wales.

English mortality from all causes in 1904 was at the rate of 16·2 per 1000 of the population and was therefore higher by nearly 1 per 1000 than the rate of the preceding year, which had been the lowest on record. Nevertheless the rate for 1904 still compares favourably with the quinquennial average and the excess over the rate of the previous year may readily be accounted for by variations in the weather conditions of the two periods. Although of the 500,000 deaths recorded in 1904 less than 2 per cent. were registered as uncertified either by medical men or by coroners, we learn that more than 9 per cent. of the total were referred to causes so indefinite as to be worthless for purposes of classification. We further learn with regret that in the 6½ per cent. of the deaths which are made the subject of inquests the certificate of the coroner in many cases leaves it uncertain whether or not medical evidence of cause of death had been given in his court. The death-rate here quoted as 16·2 per 1000 is, of course, the average rate for England and Wales, without distinction of sex, age, or locality. Taking one year with another the mortality of males is higher than that of females by about 14 per cent. and it is notorious that the rate varies enormously at the several stages of life. Again, the fatality of most diseases is known to vary considerably according as a given area contains a large or a small proportion of urban inhabitants. For this reason, in each annual report issued since 1900 statistics have been given showing the mortality in two groups of English counties, the one being urban in character and containing a total population of 18,000,000, the other rural with a population of 4,333,000; the rates in these areas are then made comparable by correction for age and sex differences of the

the universities *ought not* to be thus trammelled and hidebound. Freedom for each Scottish University to develop along the lines most suited for its particular circumstances is surely the best for each. The business committee rightly asks, Why should Parliament not be asked forthwith to grant to each university autonomy in some measure corresponding to that conferred on the younger universities in England? The recommendation that the University Court should take this matter up at once will commend itself to all who realise the necessity of enabling the Scottish Universities to adapt themselves readily to the changed conditions of the present times and to the wider conception of the functions of the highest educational institutions in the country which is now widely entertained.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A Comitia was held on April 26th, Sir R. Douglas Powell, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen, having passed the required examination, were admitted as Members of the College: Frederick Samuel Langmead, M.D. Lond., L.R.C.P. Lond.; Charles Hewitt Miller, M.A., M.D. Cantab., L.R.C.P. Lond.; and Athelstane Iliff Simey, B.A., M.D. Cantab., L.R.C.P. Lond.

Licences to practise physic were granted to 101 gentlemen who had passed the necessary examinations.

A report was received, dated April 5th, from the examiners for the Murchison scholarship, awarding the same to Henry Francis Bell Walker, a student of Guy's Hospital. Mr. Walker was in attendance and was handed the award by the President.

The following Members were, on the nomination of the council, elected Fellows of the College: Dr. Samuel Walton Wheaton, Dr. Frederick William Burton-Fanning, Dr. John Hill Abram, Dr. George Henkell Drummond Robinson, Dr. Richard Tanner Hewlett, Dr. Ernest Graham Gordon Little, Dr. Charles Richard Box, Dr. Maurice Craig, Dr. James Purves Stewart, Dr Thomas Jeeves Horder, Dr. James Hugh Thursfield, and Dr. Edward Farquhar Buzzard.

The following communications were received: 1. From the honorary secretaries of the Second International Congress on School Hygiene, to be held in London, August 5th to 10th, 1907, inviting the College to appoint two representatives to be members of the general committee. It was resolved that representatives of the College should be appointed and it was left to the President to nominate them. 2. From the University of Aberdeen inviting the College to send a delegate to represent the College at the Quatercentenary Commemoration Festival in September next, to be the guest of the University and of the city. The invitation was accepted and it was resolved that the President should represent the College on that occasion. 3. From Messrs. Goupil's (art publishers) successors, asking permission to photograph the portraits of Dr. Arbuthnot and of Sir Samuel Garth, in possession of the College, for illustrating a work which they have in hand. The request was granted. 4. From the secretary of the Royal College of Surgeons of England reporting proceedings of its Council on April 5th.

The quarterly report, dated April 6th, of the College Finance Committee was received and *adopted*.

A communication was received from Dr. J. Abercrombie, resigning the office of curator of the museum. The resignation was accepted and the thanks of the College were ordered to be given to Dr. Abercrombie for the services he had rendered to the College. Dr. W. H. Allchin was appointed to the office on the nomination of the President.

The books and other publications presented to the library during the past quarter were received and the thanks of the College were ordered to be returned to the donors.

The quarterly report of the Examiners for the Licence on the January examinations was received and adopted.

The President then dissolved the Comitia.

At the meeting of the Chard (Somerset) rural district council held on April 22nd it was resolved to erect a small-pox hospital at a cost of about £250.

THE

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held at Lisbon, April 19th—April 26th, 1906.

FINAL MEETING OF THE GENERAL INTERNATIONAL COMMITTEE.

(From our Special Commissioner.)

Lisbon, April 27th.

On Thursday morning, April 26th, at about 10 o'clock, the International Committee met in the great hall of the new School of Medicine and first decided by 38 votes against 23 that the Government delegates might be represented by substitutes. This was fortunate, for the *Ophir* was by that time far away at sea on its way homewards with Sir Dyce Duckworth on board. Sir John Tyler, however, was by this vote accepted as his substitute. Then came the question of where the next International Congress should meet. The General Secretary, Dr. Bombarda, explained that four positive invitations had been received. These were from Athens, Brussels, Budapest, and New York; some advances of a less positive character had also been made from Tokio. The executive committee of the present Congress had been in negotiation with the Hungarian committee for several months and found that the Hungarians were evidently animated by the best intentions and that the Royal Government and the municipality of Budapest had already voted funds in order that the Congress should be properly organised. The American delegates nevertheless made a great struggle for New York. Remembering, however, that the International Congress on Tuberculosis accepted the invitation to meet in the United States of America before the next Presidential election, the two Congresses would undoubtedly clash. It is not practical to expect European medical men to go to America twice within the course of a few months. Ultimately Budapest was accepted by 38 votes against 26 and one abstention. The next Congress will, as usual, be held in three years, but a request will be made that the invitations sent for the *ensuing* Congress shall not bear a date, so that when at Budapest the Congress will be free to decide whether it will meet again after an interval of more that three years.

A petition, which was signed by several medical men dentists, was then read, asking that dentists who were not medical men should be admitted to the Congress. Dr. Cruet (France), on the contrary, congratulated the committee for having excluded the dentists who were not medical men and when the matter was put to the vote a large number of hands was held up in favour of excluding dentists who are not fully qualified practitioners. The contrary opinion was not clearly taken but it was quite evident that the decision was approved by an overwhelming majority.

The fact that the General International Committee had at a previous sitting decided to allot the Paris prize to Dr. Ehrlich and the Moscow prize to Dr. Laveran was mentioned, and then Dr. Bombarda hurriedly read out some of the resolutions adopted by the sections. It was difficult to understand why this was done as there was no opportunity of discussing the points raised or voting upon them. Such votes or semblance of votes as were given at this stage were recorded very carelessly. Many persons were in the room who did not belong to the Committee and there was nothing to prevent them voting also.

The Closing Ceremony.

A little after 2 P.M. the great hall was well filled with members of the Congress who came to assist at the solemn *closure*.

The chair was occupied by the President of the Congress, Councillor Dr. Costa Alemão, with the general secretary, Dr. Miguel Bombarda, by his side. Both wore the broad lilac ribbon, gold chain, and crimson cross of the Grand Cross of the Order of Santhiago, which had just been conferred on them by the King in recognition of their distinguished scientific services.

The President read out a statement in which he said that all had gone well. From abroad and at home willing help had been received and then the President proceeded to thank everybody. On mentioning Dr. Bombarda's name a great ovation took place, everyone rose, shouted, waved hats, handkerchiefs and press notebooks. The treasurer, Dr. Alfredo remark with regard to the correction of rates of birth (as distinguished from rates of death) that it is questionable policy to pretend to a degree of accuracy which must obviously be unattainable until the statutory registration of stillbirths becomes an accomplished fact in England, as, we believe, it has long been in several foreign countries.

(To be continued.)

UNIVERSITY OF EDINBURGH: IMPORTANT PROPOSED ALTERATIONS IN THE MEDICAL CURRICULUM.

SOME time ago an epitome of a draft ordinance prepared by the court of the University of Edinburgh bearing upon alterations proposed to be made in the regulations for degrees in medicine was given in THE LANCET. There has just been circulated to the members of the general council of the University a more detailed account of the proposed alterations, along with the comments upon them by the business committee of the council. These are so very important that it is desirable to mention them in considerable detail. The proposed alterations are the outcome of numerous conferences and have been discussed by the court, the Senatus, and the Faculty of Medicine. The draft ordinance referred to only deals with the alterations in so far as they require the sanction of the King in Council before being given effect to. The comments and suggestions of the business committee of the council are arranged under the different clauses of the draft ordinance.

Under *Clause I.* it is indicated that the general idea of the scheme is that students should be allowed more freely to pass their examinations by instalments, so that when they have received their instruction in a particular subject they may be forthwith examined in it, and be thus enabled to concentrate attention upon the subjects in which they are immediately undergoing tuition without being distracted by examination requirements in subjects previously studied.

By *Clause II.* it is intended that students may appear at once for examination in any one or more subjects of the *first* division after having attended the class or classes; the *first* division includes botany, zoology, physics, and chemistry.

Clause III. provides for physiology being passed whenever the qualifying course therein has been taken. The examination in anatomy may be taken at any time after the end of the first half-session of the third winter. It is assumed that the recognition of a "half-session" concedes by implication one of the demands supported by the general council for a system of three examinations a year.

Under *Clause IV.* students who have begun medicine in May are to be examinable in pathology at the end of the fourth summer session, and the materia medica examination is to come at the end of the fourth winter. A very important proviso is, however, introduced to enable candidates to be examined in practical pharmacy, and also in the physical, chemical, and botanical characters of medicinal substances at any time after attendance on the qualifying course therein. This the committee thinks indicates that elementary parts of the subject are to be relegated to an earlier stage in the curriculum, while therapeutics is to be reserved until the students have some acquaintance with clinical work.

By *Clause V.* the subjects of the fourth or final examination may be taken after the previous examinations have been passed as follows: forensic medicine and public health at any time; midwifery after the first half session of the fifth winter; medicine and surgery at the end of the fifth winter; and clinical medicine and surgery and gynæcology at the end of the fifth year. The draft ordinance does not prescribe the sequence in which classes are to be attended, but it is thought that its provisions will afford a stimulus to students to follow out the logical order. Two matters not dealt with in the draft ordinance the committee has considered. One of these is that when examinations may be taken in single subjects immediately upon the conclusion of a course of instruction therein the record of work done by the candidate in the class which he has attended ought to form a factor in determining whether he is qualified. The other is that in the opinion of the committee the Senatus should be intrusted with power to restrain a student when desirable from entering upon new subjects of study before he has cleared the examinations in the prior subjects. To enact an absolute bar to such further study might be unwise but to confer on the Senatus a full discretion would be eminently useful, would be a kindness to the student himself, and make for his ultimate efficiency as a practitioner. The alterations embodied in the draft ordinance and the additions recommended by the business committee of the general council reveal an enlightenment of opinion which will be generally and widely appreciated by alumni of Edinburgh. The practical concession of the division of the *annus medicus* into three terms instead of two and of having examinations corresponding to them would be a great boon to the student and whatever lightens the student facilitates and benefits the teaching. Liberty to pass the examination in physiology and anatomy at an earlier date than has hitherto been possible ought to be greatly to the student's advantage in allowing him to give more undivided attention to pathology, therapeutics, and the subjects of the final examination. The separation of pharmacy and the more physical aspects of materia medica from therapeutics is also a step in the right direction; in fact, therapeutics ought properly to be definitely included in the final subjects. The recommendation of the business committee that the Senatus should have power to prevent a student attending classes on more advanced subjects when he has not passed the earlier subjects will meet with the approval of those who have had experience of students as their teachers and examiners. To some it will be a surprise to know that the Senatus has not hitherto had this power. The want of it has allowed students to attend not only systematic but practical courses of instruction when they were not in a position to benefit by the instruction and in a practical class this always means that they act as a drag upon the class and materially complicate and hinder the teaching.

The Carnegie trust.—The new regulations issued by the executive committee of this trust in the fifth annual report have been already given in detail in THE LANCET. The business committee of the general council, in referring to the changes, pertinently points out that by the new regulations the attendance of ordinary students at optional and supplementary classes will be cut down or at least deferred. As these extra classes have often been the direct or indirect result of the other part of Mr. Carnegie's endowment, that for the increase of teaching power, the position is getting anomalous and will demand early attention. One way out of the difficulty would be for the universities to charge annual composition fees for instruction and not fees for individual classes, leaving for adjustment the classes ordinary or extra which a student should be entitled to attend according to the circumstances of his academic career at the time and his own proved fitness.

Greater liberty for the Universities.—It is not generally known that the Scottish universities are strangely hindered in their evolution by Act of Parliament. The court of each university has power to make such ordinances as it may think fit, with the approval of the Sovereign in Council. Before, however, submitting any such to the Privy Council for approval each new ordinance must be communicated in draft by the court to the Senatus and to the general council for their opinions. After final adjustment by the court it has then to be communicated to the courts of the other Scottish universities. Any of the other universities or any person directly affected by the new ordinance may within one month notify dissent and within another month lodge a representation with the Privy Council. The ordinance may be referred to the universities committee of the Privy Council for a report to the Sovereign but cannot be approved until it has been laid before both Houses of Parliament during 12 weeks of session to give those Houses an opportunity of presenting an address praying the Sovereign to withhold assent. The business committee of the general council aptly terms this procedure slow and cumbrous and experience has shown that it is far from encouraging in its results. It is, moreover, in striking contrast with the autonomy enjoyed by the lately created English universities. By this procedure any of the Scottish Universities can practically block any important change which the University of Edinburgh may desire to make and instances are given illustrating how undesirable this state of affairs is. There is no doubt that with it was useful for insertion into infected cavities or as a dressing for infected wounds.

MEDICINE.

Dr. G. W. M'Caskey (Fort Wayne, U S A.) read a paper on

The Action of Diseases of the Digestive Tract in the Production of Arterial Hypertension.

The splanchnic circulation was regarded as one of the most important regulatory mechanisms of the arterial tension and was closely connected with the digestive organs. Diseases of the digestive organs might affect the tension in two ways: (1) by reflex nerve influences, and (2) by the absorption of toxic products. The latter was probably the more important method. Three questions were then discussed: (1) Could chemical products in the circulation lead to prolonged hypertension and arterial sclerosis? (2) Did such products act directly or indirectly? and (3) Could the products of the intestinal flora lead to such results? Dr. M'Caskey related clinical evidence in support of his conviction that toxic absorption from the intestines led to arterial hypertension.

Dr. Juliano Moreira and Dr. Afranio Peixoto (Rio de Janeiro) communicated a report on

Mental Diseases in Tropical Climates.

They summed up their observations under the following headings: 1. No pathological form of mental disease differing from that of other climates existed in the so-called tropical zones, neither amongst the natives of the country nor among the Europeans. 2. There was no relationship between the cases of insanity occurring in Rio and the other towns of Brazil and the maximum temperature of these towns. 3. There was no correlation between the climatic states (temperature, moisture, &c) and the number of cases of insanity in the warm parts of Brazil 4. The meteorologic and seasonal influences on the insane presented individual differences in warm climates just as they did in cold climates and no general rules on that connexion could be formulated 5 The influence of the tropics on the nervous system of persons coming from cold climates varied with the individual but was usually associated with their modes of life and their nervous organisations. 6 There was no reason to believe that in tropical climates there was a greater frequency of psychoses connected with malaria. Their presence in malarial patients depended on other factors. 7 The climate had no influence on the symptoms of the various psychoses. The cause of any differences depended on the degree of education of the individual. A pure descendent of pure Caucasians if brought up in the interior with ignorant people would exhibit the same elementary insanity as the uneducated coloured people.

Dr. Francisco Fajardo (Rio de Janeiro) read an official report on

The Etiology and Prophylaxis of Yellow Fever

In 1900 the American Commission had published its experiences, which had given a new direction to the study of yellow fever by demonstrating its transmission by the *stegomyia calopus.* The history of the triumph of Cuba over yellow fever was described; it had been accomplished by the careful methods of exterminating the mosquito adopted by Dr. Gorgas. Dr. Fajardo believed that in time there would be no cases of yellow fever in Rio de Janeiro, New Orleans, or in the zone of the Panama Canal. He summed up his conclusions thus: 1. Although Sanarelli's works had not received scientific sanction with regard to the cause of yellow fever they were a remarkable scientific contribution inasmuch as they shed great light on the pathological anatomy of the disease. 2. Up to the present insignificant benefits had arisen from the recent study of yellow fever with regard to its diagnosis, prognosis, and treatment. 3. The etiology of yellow fever had not so far been discovered definitely but recent research had been of value in pointing out the direction for future work; this had been done by the American commission and the Pasteur mission. 4. In Brazil the obstinate and prolonged struggle against the mosquito in general and against the propagation of yellow fever in particular would soon banish the disease from Brazilian territory, as was witnessed by the work effected in connexion with the discovery of the epidemic sources in Rio. 5. Simple transmission of yellow fever by the stegomyia could occur during the day between 9 and 3 o'clock, though rarely. 6. To-day the prophylaxis of yellow fever rested on scientific facts and could be applied everywhere with a satisfactory result.

Dr. Aarao Ferreira de Lacerda (Oporto) read a paper entitled—

Some Observations on the Intensive Mercurial Treatment of General Paralysis.

From February, 1904, to March, 1905, he had, in conjunction with Dr. Magalhães Lemos, experimented therapeutically in 15 cases of general paralysis, in accordance with the precepts set forth by Leredde in his book, "The Syphilitic Nature and the Curability of Tabes and General Paralysis." In 11 out of the 15 cases syphilis had undoubtedly been in operation, in one alcoholism only was present, in one the history was uncertain but syphilis was probable, and in two no history could be ascertained. All were marked cases of general paralysis, having passed through the early stage of the disease. The time elapsing between the syphilitic infection and the onset of general paralysis had in 13 of the cases varied from five to eight years; in two cases it had been over ten years. The following treatment had been administered: (*a*) First mercurial treatment from Feb. 14th to May 13th, 1904, with an interval of rest from March 28th to April 6th. Intramuscular injections of benzoate of mercury every second day and later daily in doses of four and a half, increased to 11, milligrammes. Then followed a month of rest (*b*) Second mercurial course from June 13th to July 6th; injections of hermophenyl daily, rising from one centigramme to 12 centigrammes dose. After an interval of ten days' rest iodide of potassium was given after three meals daily, the dose being increased from one gramme to 12 grammes daily. After an interval of 33 days the second course of iodide of potassium was commenced. A daily dose of three grammes was gradually increased to 12 grammes. An interval of 65 days was then allowed. (*c*) The third course of mercurial treatment was started on Jan. 27th and lasted to March 3rd, 1905. Intramuscular injections of hermophenyl were given, at first every second day and then daily, in doses increasing from one to 12 centigrammes Detailed accounts were given of the symptoms of the 15 cases and the results of treatment were not encouraging. Treatment by mercury had always been stopped if the patient lost weight or developed albuminuria or an oscillating temperature. The conclusions arrived at were 1. That mercury can be administered in the quantities indicated without danger of skin manifestations, stomatitis, or intestinal disturbance. 2. In each course of treatment not more than 22 injections should be made and they must be injected deeply into the upper third of the buttock. 3. Mercury was injurious in the third stage of general paralysis and (4) in the second stage it was harmless; the disease followed its usual course independently. 5 Iodide of potassium in all cases led to tachycardia and feeble pulse. 6. The biniodide of mercury was an excellent preparation for this method of treatment. The hermophenyl produced no pain and was easily managed. 7. The lack of success in the cases described was explicable because none of them had been treated in the initial stage of the disease.

Dr Antonio Muñoz Ruiz de Pasanis (Cazorla) read a paper on

Cardiac Arrhythmia.

He said that arrhythmia might be either organic or functional, the former being due to causes which affected the structure of the cardiac muscle and the latter being brought about through the agency of the nervous system. There were, however, some disturbances of the innervation of the heart which did not give rise to arrhythmia. Any interference with the pneumogastric or the great sympathetic would, for instance, produce not arrhythmia but tachycardia or bradycardia. It was not at present possible to classify the various forms of nervous arrhythmia in accordance either with clinical observation or physiological experiment. The mechanism of arrhythmia could be explained in conformity with the distribution of the muscular fibres in the auricles and ventricles, and their mode of action. The muscular fibre of the heart always contracted rhythmically, rhythmic action being one of its essential properties, but rhythmic action did not imply the co-existence of synchronism, because two organs might move rhythmically although not synchronously. For two organs to move synchronously there must be some link connecting them, and there must also be a cause which determines the instant when the movement begins. Now the auricles and

Lopes, the assistant secretaries, Dr. Antonio de Azevedo, Dr. F. de Mattos Chaves, Dr. Mello Breyner, Dr. Silva Carvalho, and Dr. Azevedo Neves, were also mentioned and their names greeted with well-merited applause. Nor was the press omitted, and gratitude was expressed for its services in having helped to draw people to the Congress and for diffusing the knowledge which the Congress had attempted to bring forth. Of course, the King and all those who had provided any sort of hospitality were mentioned in grateful terms and the speech concluded with cheers for the Royal Family, for Portugal, and Hungary as the host of the next congress.

Dr. FERDINAND CARO, who was the general secretary of the last Congress which met at Madrid, now rose on behalf of all the foreign delegates and members to thank the King of Portugal who came in person to the Congress so as to show his courtesy and his esteem of the medical profession. The members had attended so as to describe the progress accomplished in each country. Some came to teach, others to learn, and all to coöperate in the advancement of science. In the book of science they had now written another page. The work was over; in a few hours many would be leaving Portugal, but they would never forget what they had seen and the kindness they had experienced.

The SECRETARY-GENERAL then announced to whom the Moscow and Paris prizes had been given and the Congress applauded the choice made. Then the band, placed in a neighbouring room, persisted in playing a somewhat melancholy hymn which presumably is the official Hungarian National Anthem. The Rackotsky march would certainly have been more generally recognised and appreciated. The bandmaster, however, seemed to think it his duty to play the official hymn every time he heard the word Budapest mentioned. The Congress thereupon stood meekly like so many penitents in gloomy silence till the band had finished its lugubrious performance and the business of the day could be resumed. It was only at the cost of hearing the hymn over and over again that we could be informed who would preside at Budapest. The Sixteenth International Congress of Medicine, which is to meet in 1909, will have for President *Professor Colman Müller and for general secretary Professor* Emil Grósz.

Dr. DE TOTH, on behalf of Hungary, returned thanks to the Congress for having accepted the invitation tendered by his fellow countrymen. He appealed for help from all nations and promised that the Hungarians would do their best to insure the success of the next Congress.

The Secretary-General had contrived during the course of this sitting to again read out very hurriedly some of the resolutions carried in the sections. This was a mere form and no serious vote could be taken. In fact, the marvel of it is that, in spite of the repeated hymn-playing, the whole sitting lasted barely more than half an hour. The wearying succession of nationality speeches had been replaced by a few very brief but eloquent sentences from Dr. Caro. With the exception of the President's opening address there had been no speeches; thus to the surprise of all and the relief of not a few the sitting was concluded in less time than at any of the previous International Congresses. Formal notice of termination was followed by an outburst of tremendous enthusiasm.

As Dr. Bombarda and the President stepped off the platform they were surrounded by numerous members eager to grasp their hands and to embrace them. Not a few, especially the Portuguese members, fell in each other's arms and indulged in many wild and excited manifestations of their joy at finding that the Congress had proved so complete a success. Loud were the shouts, the laughter, the cheers that accompanied the President and the general secretary as they struggled through the excited and grateful crowd *from the hall to their private* office. The Congress certainly ended joyfully. Everybody seemed pleased and happy.

THE SECTIONS.

THERAPEUTICS AND PHARMACOLOGY.

Heliotherapy.

Dr. EDOUARD MASIP (Madrid) read a paper upon this subject. He began by some remarks upon the physics of light and then proceeded to give an account of the ways in which this form of energy had been utilised as a therapeutic agent. His conclusions were as follows. 1. Solar light acts in a physiological, hygienic, and therapeutic manner. 2. The thermo-photo-chemical phenomena produced upon the organism by the solar radiation can be scientifically explained by a reference to absorption and reflection, aided by refraction, dispersion, diffraction, and polarisation. 3. Synchronic vibrations between the ether (the transmitter) and our organism bring about the absorption of the solar radiations, whether thermal or actinic; asynchronism, on the other hand, causes their reflection. It is fair to suppose that a similar action can be attributed to the invisible portions of the spectrum. 4. Solar light acts upon the organism as a microbicide by *modifying* the cellular elements and by destroying the pathogenic elements. 5. The results obtained *from* solar radiation are in direct ratio to its duration and its intensity. 6. Heliotherapy produces two classes of essential phenomena upon our organism, the one of an exciting and the other of a depressing nature. By bringing about these effects we can treat a number of maladies, such as, for instance, those of the skin, gout, rheumatism, lupus, malignant new growths if they are superficial, diseases of the kidney, tuberculosis, anæmia, pharyngitis, and others. This form of energy is bound to have a place in the therapeutics of the future.

The Hypodermic Injection of Oxygen.

A paper on this subject was communicated to the Congress by Dr. J. DÓMINE and Dr. J. CHABAS, both of Valencia. They stated that, so far as they knew, the first instance of the employment of oxygen as a therapeutic agent by hypodermic administration was when Dr. Dómine used it in 1900 at Valencia. The discovery was accidental and came about owing to a faulty apparatus with which Dr. Dómine was trying to inject physiological serum in a case of typhoid fever. Air was injected as well and the results were so good that he attributed them to the oxygen. He therefore made trial of the injection of pure oxygen with great success. Dr Dómine and Dr. Chabas gave an account of various cases of disease in which the treatment had been tried. To put it broadly, it was useful in all conditions where there was either stasis of the blood current or neuritis, such as carbuncle or sciatica, or any condition in which the blood was not properly oxidised. No evil effects had ever been noted to follow the *use of oxygen. They used an apparatus consisting* of a reservoir for the oxygen which led into a wash bottle. From the wash bottle the gas passed through a tube provided with two bulbs having valves, and the last bulb communicated by a short piece of tubing with an ordinary hypodermic needle. The oxygen when injected into the cellular tissue was rapidly absorbed. It had a local mechanical action and a general chemical action.

Dr. DOYEN (Paris) read a paper upon

Proteol.

He said that the principal antiseptic powders used in surgery were salol and iodoform, but he had found that they were comparatively inert, and in searching for a substance of the same class but possessed of greater energy he had discovered proteol, a powder in which formic aldehyde was combined with casein. If three test tubes six inches long were half-filled with neutral or slightly alkaline culture bouillon, inoculated with any virulent bacteria or even with fæcal liquid, and mixed one with salol, one with iodoform, and one with proteol, it would be found that the two first gave an abundant growth in from 12 to 24 hours, while the tube containing proteol remained sterile. Compounds of formic aldehyde and casein have been already described by various writers but they all have the disadvantage of *being prepared* in an autoclave at a temperature of 100° C. or higher. temperatures at which formic aldehyde was polymerised and rendered inert, whereas proteol was prepared at the *ordinary* temperature and the bactericidal energy of the formic aldehyde remained unimpaired. Compounds of formic aldehyde with gelatin and egg albumin have *also been described* but they were open to the objection of becoming swollen by contact with the fluids of wounds and afterwards adhering like partly dried starch. *Proteol, on the other* hand, remained a powder after being wetted by the fluids of wounds and had no characteristic odour. It was well adapted for disinfecting both the surgeon's hands and the patient's skin at the site of an operation. For this purpose the powder might be mixed with the lather of ordinary soap, or it might be used in the *form* of a special proteol soap *(crême de savon au protéol).* Proteol answered well as a dressing both for the incisions in the skin left after operations and for chronic ulcers [illegible] leg; gauze impregnated with it was useful for insertion into infected cavities or as a dressing for infected wounds.

MEDICINE.

Dr. G. W. M'CASKEY (Fort Wayne, U.S.A.) read a paper on

The Action of Diseases of the Digestive Tract in the Production of Arterial Hypertension.

The splanchnic circulation was regarded as one of the most important regulatory mechanisms of the arterial tension and was closely connected with the digestive organs. Diseases of the digestive organs might affect the tension in two ways: (1) by reflex nerve influences; and (2) by the absorption of toxic products. The latter was probably the more important method. Three questions were then discussed: (1) Could chemical products in the circulation lead to prolonged hypertension and arterial sclerosis? (2) Did such products act directly or indirectly? and (3) Could the products of the intestinal flora lead to such results? Dr. M'Caskey related clinical evidence in support of his conviction that toxic absorption from the intestines led to arterial hypertension.

Dr. JULIANO MOREIRA and Dr. AFRANIO PEIXOTO (Rio de Janeiro) communicated a report on

Mental Diseases in Tropical Climates.

They summed up their observations under the following headings: 1. No pathological form of mental disease differing from that of other climates existed in the so-called tropical zones, neither amongst the natives of the country nor among the Europeans. 2. There was no relationship between the cases of insanity occurring in Rio and the other towns of Brazil and the maximum temperature of these towns. 3. There was no correlation between the climatic states (temperature, moisture, &c.) and the number of cases of insanity in the warm parts of Brazil. 4. The meteorologic and seasonal influences on the insane presented individual differences in warm climates just as they did in cold climates and no general rules on that connexion could be formulated. 5. The influence of the tropics on the nervous system of persons coming from cold climates varied with the individual but was usually associated with their modes of life and their nervous organisations. 6. There was no reason to believe that in tropical climates there was a greater frequency of psychoses connected with malaria. Their presence in malarial patients depended on other factors. 7. The climate had no influence on the symptoms of the various psychoses. The cause of any differences depended on the degree of education of the individual. A pure descendent of pure Caucasians if brought up in the interior with ignorant people would exhibit the same elementary insanity as the uneducated coloured people.

Dr. FRANCISCO FAJARDO (Rio de Janeiro) read an official report on

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He said that arrhythmia might be either organic or functional, the former being due to causes which affected the structure of the cardiac muscle and the latter being brought about through the agency of the nervous system. There were, however, some disturbances of the innervation of the heart which did not give rise to arrhythmia. Any interference with the pneumogastric or the great sympathetic would, for instance, produce not arrhythmia but tachycardia or bradycardia. It was not at present possible to classify the various forms of nervous arrhythmia in accordance either with clinical observation or physiological experiment. The mechanism of arrhythmia could be explained in conformity with the distribution of the muscular fibres in the auricles and ventricles, and their mode of action. The muscular fibre of the heart always contracted rhythmically, rhythmic action being one of its essential properties, but rhythmic action did not imply the co-existence of synchronism, because two organs might move rhythmically although not synchronously. For two organs to move synchronously there must be some link connecting them, and there must also be a cause which determines the instant when the movement begins. Now the auricles and ventricles are structurally connected by their muscular fibres, and in order that they may move synchronously the nervous system must supply both with the necessary stimulus. When this stimulus was not supplied to each at the same instant, whether from mutual interference of the nervous currents or from inhibition of one of the nervous fibres of one auricle or one ventricle, the result was the production of nervous or functional arrhythmia.

The Treatment of Sundry Nervous Diseases by Methodical Exercises.

Dr. **MAURICE FAURE** (La Malou) read a paper upon this subject. The paper dealt with ataxia, paraplegia both spastic and otherwise, hemiplegia, "tics," cramps and tremors, functional paralyses, various forms of sclerosis, and infantile paralysis. In all these forms of disease or results of disease except sclerosis graduated exercises carefully carried out had been found to do good, although the results were not all equal in every class of case. The best and most lasting results had been obtained in ataxia. In hemiplegia they were not so lasting and in paraplegia and the other diseases considered there was not enough experience to found any definite opinion as regards the duration of any benefit which might accrue. In hemiplegia the treatment, massage and passive movements, ought to be begun as soon as possible after the stroke. In this way the pain, the atrophy, and the malposition which were so often the results of hemiplegia might be almost altogether avoided or at least minimised. If the treatment was only begun after the appearance of arthritis, of contractions, of atrophy, or of malposition but little good could be hoped for.

PEDIATRICS.

Dr. **OSCAR VULPIUS** (Heidelberg) read a paper upon

The Treatment of Infantile Spinal Paralysis.

He said that he would confine his remarks to treatment by means of a portable apparatus and to treatment by means of arthrodesis and tendon transplantation. With respect to the wearing of an apparatus his opinion was that its disadvantages exceeded its advantages and that the use of any such appliance ought to be avoided as much as possible. Good results were, however, obtainable by arthrodesis in cases when there was either total paralysis of all the muscles in connexion with a joint or when so little power remained that no control could be exercised over the movements of the joint. Dr. Vulpius has very often performed this operation on the ankle, the knee, and the shoulder, but he has, on the other hand, avoided the production of ankylosis in the hip-joint, the elbow, and the wrist. In the operation he exposed the articular surfaces freely and removed the cartilage so that the bone appeared here and there. In the case of the shoulder he sutured the two bones with silver wire but in the other joints he allowed ankylosis to take place naturally, maintaining fixation, however, by means of a well-fitting plaster splint worn for at least three months. In the ankle the uniform result was firm fibrous ankylosis of the joint in the rectangular position. In order to keep the foot raised it was well also to shorten the three anterior muscles of the leg and to fix them to the periosteum of the tibia. An unsuccessful result was rare but was sometimes caused by hypermobility of the other articulations of the bones of the foot. Flat-foot might occur if the patient began to walk too soon but this seldom happened. In the knee the articular surfaces must be freshened most freely, otherwise there was likely to be not only imperfect fixation but a tendency to flexion of the joint from contraction of the tendons. After the completion of the arthrodesis it was therefore well to resect the flexor tendons and to suture the extensors in a position of tension. Dr. Vulpius had never known hyper-extension to occur. When both knees were affected he performed arthrodesis on only one and fixed the other in a portable apparatus. Arthrodesis of the shoulder should be performed only when the muscles of the forearm were sound and when the mobility of the hand was hardly, if at all, affected. The ankylosis ought to bring the arm into a position of abduction and elevation. The foregoing procedures were intended only for the relief of total, or almost total, paralysis. In partial paralysis, which was much the more frequent of the two, he strongly recommended tendon transplantation. So far as possible he employed total transplantation, using the whole of the sound muscle and tendon, but when partial transplantation was necessary he divided the tendon quite up to the muscle in order to insure the functional independence of the transplanted part.

PSYCHIATRY, NEUROLOGY, AND CRIMINAL ANTHROPOLOGY.

General Paralysis in Spain.

Dr. **RODRIGUEZ-MORINI** (Barcelona) read a paper entitled "A Contribution to the Clinical Study of General Paralysis in Spain." He commenced by giving a brief account of the recognition of the malady as a definite and separate disease and then discussed the incidence of the disease, its etiology, and its predominant clinical forms. His conclusions were that general paralysis was a disease of such interest that every fact concerning it which it was possible to collect should be classified in order to throw light upon the many disputed points which still exist. Spanish physicians have up to the present contributed but very little to the subject. The statistics of mental diseases in Spain as at present published give little indication of the true frequency of general paralysis. Dr. Rodriguez-Morini, who is the physician in charge of the asylum of San Baudilio de Llobregat at Barcelona, had founded his paper upon facts noted by himself in the asylum where he was in charge and upon information obtained through the courtesy of the heads of other Spanish asylums. From the figures obtained he was able to say that the proportion of general paralytics among the male asylum patients in Spain was from 5 to 6 per cent. on the average. In the north of Spain the percentage ran up to 8 per cent., a rise which was probably due to the greater frequency of drunkenness in the north as against the south. Among the female inhabitants of asylums the proportion was only 1 per cent. The ages of the patients were, as a rule, between 32 and 48 years. General paralysis scarcely ever appeared before the age of 25 years or after the age of 50 years. It was far more common in townsmen than in countrymen, more common among the married than among the single, and more common among members of the liberal professions than among artisans and workers with their hands. In 90 per cent. of the cases syphilis was the chief etiological factor. To alcohol were due probably 8 per cent. of the cases and in 2 per cent. no definite cause could be assigned, although it seemed probable that some acute infection was at work.

DERMATOLOGY AND SYPHILIS.

Dr. **SUAREZ DE MENDOZA** (Paris) read a paper on

Syphilis of the Intestine.

He pointed out that little has been written on this subject and therefore he described a case under his own care. A man, 62 years old, complained *inter alia* of a persistent diarrhœa which had lasted eight years and had resisted all treatment. As the patient had lived for many years in the tropics a diagnosis of "tropical diarrhœa" was made and suitable treatment was employed; much improvement followed, though as soon as the treatment ceased the diarrhœa returned. In spite of the absence of a syphilitic history, Dr. de Mendoza decided to employ antisyphilitic treatment and gave hypodermic injections of hermophenyl, at first two centigrammes a day, increasing to eight centigrammes daily. Ten days after the commencement of treatment the diarrhœa was much better and after the thirtieth injection the patient was well; noises in the ears and some laryngeal trouble from which he had suffered also improved. Iodide of potassium was then given (four grammes a day) and a month later the patient ceased treatment. He was advised to have every three months 20 daily injections of hermophenyl, followed by 20 days' treatment with the iodide. A year later he remained well. Dr. Mendoza has collected the literature of the subject and he finds that the first case diagnosed as syphilitic affection of the intestine seems to have been described by Cullerier in 1854, but Monteggia in 1794 described a necropsy in which syphilitic ulceration of the whole of the large bowel was present. From a consideration of his own case and of those recorded Dr. Mendoza comes to the following conclusions: (1) That intestinal syphilis is much less rare than is ordinarily supposed; (2) it affects especially the end of the small intestine and the large intestine; (3) the symptoms are few and indefinite and the diagnosis is difficult; and (4) if a diarrhœa proves rebellious to ordinary treatment antisyphilitic measures deserve a trial even though there is no history of syphilis.

SURGERY.

Dr. A. **CODIVILLA** (Bologna) read a paper on

The Indications for the Transplantation of Tendons.

His opinions were founded on the results of 415 operations which he had performed. Many of the cases had been followed up and examined from time to time to see whether the results were permanent. He did not employ the operation for certain cases in which he formerly used it. His experience had taught him that it was necessary to have more muscular force available than he used to think necessary, for a certain part of the power was lost in consequence of the new mechanical conditions to which the tendons and muscles were subjected Unless attention be paid to the importance of having a distinct excess of available muscular power it would be useless to expect any movements after operation. Muscles already weakened by disease were useless for transplantation of tendons. For spastic paralyses also much good might be done and athetotic and choreiform movements might wholly cease on transplantation of tendons; but in all these cases the same rule held good that there should be a notable excess of power in the muscles above that which was apparently required. If this excess was not present no movement could be expected and so the method was then to be compared with other methods of joint fixation. Age offered no absolute contra indication, but it must be borne in mind that the trophic condition of the muscles and functional adaptability became less with increasing age. Site had little influence, but the lower leg and the forearm were the most favourable regions of the body. As to the results, he considered that in suitable cases the method was without a rival Possibly in the future plastic operations on nerves might in part replace the transplantation of tendons, but not at present

Dr. **MILIAN** (Paris) read a paper on

Leucoplakia.

He commenced by pointing out the lack of agreement amongst authors as to the definition of the word but he applied it to all persistent white patches of the mucous membranes. The white colour was not due to the presence of any horny layer or even to the presence of eleidin; neither was it caused by any hardening of the derma. It was due to a change in the cells of the mucous membrane. They had undergone a chemical change, the proteid having become white; and this might be compared to the white appearance of some ascitic fluids. Histologically there were present hypertrophy of the cells, a basophil condition of the protoplasm, slight interstitial œdema, and nuclear hyperplasia. These conditions were the result of irritation; they were associated with inflammatory changes in the derma of the mucous membrane. Leucoplakia was an indication of a functional superactivity and not of a degeneration. It was the result of irritation by toxic substances. Leucoplakia was generally secondary to changes in the derma (secondary leucoplakia) but rarely it constituted the sole abnormal condition (primary leucoplakia). Many lesions might give rise to leucoplakia, such as papules, erosions, and ulcerations. As to its etiology there were certain conditions, such as epulis, psoriasis, and balanitis, which never gave rise to leucoplakia, whilst there were others, such as lichen planus, lupus erythematosus, and syphilis, which might cause it The question arose, Were there ever any cases of "idiopathic leucoplakia"? Probably not; all cases apparently idiopathic were fairly certainly syphilitic in origin. There were many arguments in favour of this, such as the great resemblances between lingual syphilis and leucoplakia of the tongue, the presence of a syphilitic history in 80 per cent of the cases of so-called idiopathic leucoplakia; and especially the facts that a careful examination would show the presence of syphilitic characters and that mercurial treatment would cure nearly all of them. As a predisposing cause the arthritic diathesis was of some importance and local injury, due to eating and smoking, had some effect. The pathological change present was a keratinisation of the mucous layers and a sclerosis of the derma. The colour of a patch of leucoplakia varied from a bluish-white to a milk-white and the surface might be smooth or ridged or papillary. An elaborate table was given of the varieties of leucoplakia in relation to the cause and appearance. Dr. Milian said that though there could be no doubt that epithelioma might develop from leucoplakia yet he could give no definite explanation of the transformation. As to treatment, when all the forms due to lichen planus and similar conditions had been put aside—for they needed their special forms of treatment—there remained only cases of syphilitic origin, and at least 80 per cent. of the cases were syphilitic, when antisyphilitic treatment should be employed. Locally the avoidance of all forms of irritation was important, such as strong tooth powders and caustics. The mouth should be kept clean by the tooth-brush and soothing gargles. Alcohol, wine, and tobacco should be avoided. Internally iodide of potassium was useless. Mercury should be given hypodermically. One important point was that the treatment should be long-continued and six months was the minimum for continuous treatment and for two or three years an intermittent treatment should be carried on. Gray oil and calomel were the only suitable substances for injection, but a keen look out should be kept for signs of poisoning. At the end of three months there should be an interval of four weeks and then the treatment should be resumed. By this method of treatment the ulcerations healed, the deep lesions softened, and the tongue regained its suppleness. The leukoplakia diminished in extent but some patches would always remain. The tongue should always be watched so that surgery might intervene as soon as a suspicion arose of a malignant transformation. There was much to be said in favour of a surgical removal of the patch in the pre-cancerous stage but a preliminary mercurial treatment should always be employed and the excision should not be limited to the epithelial layer. Prophylactic treatment was of great importance and leukoplakia should be prevented by a thorough mercurial treatment of all syphilitic lesions.

LARYNGOLOGY, RHINOLOGY, OTOLOGY, AND STOMATOLOGY.

Professor **RAYMOND DE LA SOTA E LASTRA** (Seville) read a paper upon

The Diagnostic Difference between the Lesions of Tuberculosis, Syphilis, and Cancer in the Larynx.

The conclusions which he arrived at were as follows. 1. Tuberculous laryngitis is a hereditary complaint and appears at an early period of life. Syphilis is also hereditary but the laryngeal infection is found more usually in the acquired variety. Cancer is not hereditary nor present before the age of 40 years. 2. Tuberculous disease of the larynx is always accompanied by other tuberculous lesions. The same applies to syphilis, while in cancer the reverse obtains. 3. Disturbance in the voice is one of the cardinal features in tuberculosis, with dysphagia, night sweats, &c. In syphilis the general health is usually good, though sometimes dysphagia is present. Cancer may exist for a long time accompanied only by hoarseness. After ulceration has set in a horrible stench is observed, with cachexia and referred pains. 4. It has usually been considered that these referred pains are present only in cancer, but they are also present in a less degree both in tuberculosis and syphilis. 5 The odour exhaled in cancer is unmistakeable. The expectoration in syphilis is very fœtid but different in character, while the exhalations in tuberculosis are not offensive. 6 Deformity of the thyroid cartilage is more pronounced in cancer than in tuberculosis and syphilis. In syphilis this frequently represents the carapace of the tortoise. 7. In tuberculous laryngitis more or less congestion is seen on microscopic examination; at other times there is anæmia of the mucous membrane showing ulceration of special parts, especially the arytenoid. 8. In lupus the point of infection is the epiglottis. In syphilis during the secondary period great hyperæmia is present, together with multiple small ulcers. In the tertiary period gummatous tumours are found either of the same colour as the surrounding tissue or of a more yellowish hue. Cancer commences by a tumour on the cord, usually posteriorly and to the left, extending into the arytenoid region near the cord, and eventually involving the whole of the tissues of the organ.

Dr. F. J. **MOURE** (Bordeaux) read a paper upon

Different Forms of Suppuration in the Maxillary Antrum

The varieties of suppuration in the maxillary antrum be classed under two cardinal headings—acute and chronic. The acute, he said, are (1) simple or catarrhal; and (2) infectious or osteomyelitic. The chronic are (1) of dental

if a diarrhœa proves rebellious to ordinary treatment anti-syphilitic measures deserve a trial even though there is no history of syphilis.

SURGERY.

Dr. A. **CODIVILLA** (Bologna) read a paper on

The Indications for the Transplantation of Tendons.

His opinions were founded on the results of 415 operations which he had performed. Many of the cases had been followed up and examined from time to time to see whether the results were permanent. He did not employ the operation for certain cases in which he formerly used it. His experience had taught him that it was necessary to have more muscular force available than he used to think necessary, for a certain part of the power was lost in consequence of the new mechanical conditions to which the tendons and muscles were subjected Unless attention be paid to the importance of having a distinct excess of available muscular power it would be useless to expect any movements after operation. Muscles already weakened by disease were useless for transplantation of tendons. For spastic paralyses also much good might be done and athetotic and choreiform movements might wholly cease on transplantation of tendons; but in all these cases the same rule held good that there should be a notable excess of power in the muscles above that which was apparently required. If this excess was not present no movement could be expected and so the method was then to be compared with other methods of joint fixation. Age offered no absolute contra indication, but it must be borne in mind that the trophic condition of the muscles and functional adaptability became less with increasing age. Site had little influence, but the lower leg and the forearm were the most favourable regions of the body. As to the results, he considered that in suitable cases the method was without a rival. Possibly in the future plastic operations on nerves might in part replace the transplantation of tendons, but not at present.

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The varieties of suppuration in the maxillary antrum he classed under two cardinal headings—acute and chronic. The acute, he said, are (1) simple or catarrhal; and (2) infectious or osteomyelitic. The chronic are (1) of dental origin—(*a*) from direct infection or empyema, and (*b*) from suppuration of dentigerous cysts; (2) of nasal origin—(*a*) from muco-purulent infection, and (*b*) from atrophic rhinitis, caseous rhinitis, or syphilitic rhinitis; (3) from foreign bodies; and (4) from trauma. In the simple forms of the acute disease there is no pain if the orifices of the antra are large and the pain is increased in proportion to the smallness of the opening. Photophobia, a sensation of weight, with perhaps some œdema of the face and of the lower eyelid, are the most marked features. In the infectious variety the pain is more intense and of neuralgic violence and usually unilateral. It is present especially in the region of the eye on the same side. Photophobia and lacrymation are marked, the temperature is raised, and there are considerable swelling and œdema. Mastication is difficult. Death not infrequently occurs as the result of an intense infection, but this is fortunately rare. Immediate operation is advised. In the chronic cases dental infection is either followed by the disappearance of the epithelium lining the cavity or abundant proliferation of the tissues in the neighbourhood of the diseased teeth. The symptoms of the condition, as also the treatment, were, he said, too well known to need further remark. The point of chief interest in regard to suppurating cysts is that the diagnosis is usually made at the time of operation. The traumatic cases and those caused by foreign bodies are usually the result of malhandling on the part of the dentist, either fracture of the alveolus, penetration of the sinus by forceps or an elevator, or the forcing into the cavity of a piece of bone.

Mr. C. E. WEST (London) read a paper on

The Occasional Influence of Adenoids and Aural Foreign Bodies on the Causation of Epilepsy.

The views of Sir William Gowers with regard to antecedent causes of epilepsy were briefly given, and the general view was expressed that there is a wide range of degrees of cortical readiness of response, passing up from those conditions known as normal to those of pathological instability, when powerful or continued irritation may succeed in firing off a generalised explosion. Finally, reference was made to those cases in which the degree of instability is so great that a stimulus so faint as to defy detection, or perhaps the mere accumulation of some product of living processes, is sufficient to cause the onset of an epileptic fit. Working on this hypothesis the possibilities of naso-pharyngeal obstruction, which so frequently produced delayed and impaired intellectual vigour, and was not uncommonly connected with rickets, were reviewed as possible factors in the causation of epilepsy, and reflex conditions, such as asthma, polypi, cough, and granular pharyngitis, were quoted. Several cases were given, showing that after removal of adenoids epileptiform convulsions, which were previously present, had ceased. As regards foreign bodies in the meatus, however, there seemed, said Mr. West, to be a question as to whether the effect of these foreign bodies was an exaggerated attack of aural vertigo or an epileptic fit, though several cases were quoted as evidence of its being the latter.

Dr. GEORGES MAHU (Paris) read a paper on

Injections of Paraffin Wax in Rhinology.

The first portion of this communication dealt with the literature on the subject up to the end of last year. Interstitial injection of vaseline and paraffin, submucous injection of paraffin, and several other methods were considered. The injection of vaseline, said Dr. Mahu, was soon abandoned for various reasons, the principal one being its rapid absorption, and hard paraffin took its place. The effect of the presence of paraffin in the tissues was then dealt with. Foreign bodies were considered, physical, mechanical, toxic, and septic. A large number of instances were quoted in which accidents had occurred under each of these headings, but these could most effectually be avoided by the most absolute asepsis, the employment of paraffin melting at a high temperature, and a careful limitation of the injection. When the injection was made into the turbinate bone, however, the employment of cold injections was recommended. The next consideration was as to whether these injections were permanent. If a hard wax were used, or one melting at a high temperature, relative permanence of the effect produced was insured. External injections with cold paraffin were recommended for congenital deformities, such as malformations of the nose, slight clefts in the hard palate, and for acquired deformities, such as the destruction of the nose following syphilis, malformations produced by cicatricial contraction, and in cases in which part of the nose or cartilage had been lost by trauma, deformities following surgical intervention, especially in connexion with the accessory cavities, and hemiatrophy of the face. The injections should not be used when the person was suffering either from an acute or a chronic illness or when the tissues into which the injection was to be made were bound very tightly down into the subjacent bone. The technique was very carefully considered. Intranasal injections were also reviewed.

Dr. JAIME DE LOSADA read a paper on

The Treatment of Pyorrhœa Alveolaris.

The first class of case was characterised by the inflammation of the edge of the gum produced by the mechanical irritation of tartar. The second class was distinguished by the complete absence of mechanical irritation and the malady was largely confined to the periosteum. In the first class the affection originated in the region of the root, the remainder of the fang being normal. The prognosis was favourable and the treatment consisted in the removal of the cause of irritation, curettage, and the cleaning away of every particle of foreign matter, proceeding as far down the fang as was necessary and cleaning out all pockets with a jet of hot water containing some germicidal and astringent in solution, such as trichloracetic acid. In the second class the prognosis was usually unfavourable, but treatment should be commenced at the earliest possible date. It should consist chiefly of general hygiene of the mouth and constitutional remedies for arthritis should be administered. Curettage and germicidal and astringent irrigations should also be employed in these cases. Perchloride of mercury was especially recommended as an antiseptic. A third class of case was distinguished by degeneration and increase of periosteum of the fang, frequently accompanied by the formation of calculi, together with the presence of urates and calcareous plaques. The prognosis here depended largely upon the intensity of the gouty diathesis and the treatment should be principally constitutional. The local treatment was much the same as that recommended in other cases.

Dr. LUDGER CRUET (Paris) read a paper upon

The Choice of an Anæsthetic in Tooth Extraction.

After a very detailed review of all antiseptics, local and general, the following conclusions were arrived at. The employment of anæsthesia was absolutely legitimate for the extraction of teeth, with the view of abolishing pain. In such a case there was justification for using either general or local anæsthesia, but general anæsthesia should be reserved for difficult cases and multiple extractions. Chloroform or ether were the best anæsthetics, but there was nothing against the use of other substances with appropriate indications. Brief general anæsthesia in a difficult subject was better than local anæsthesia. Bromide of ethyl and chloride of methyl should be given in preference to nitrous oxide gas. Local anæsthesia was preferable in the vast majority of cases. Freezing alone was generally insufficient, but it might be employed to intensify the effect of an anæsthetic injected subcutaneously. The local anæsthetic for choice was hydrochlorate of cocaine.

Professor W. D. MILLER (Berlin) read a paper upon

The Present State of our Knowledge with regard to the Causation of Dental Caries.

There are, he said, two stages of destruction of the teeth during caries: (1) calcification of the enamel and (2) disappearance of the dentine; and under these two headings all the work done by previous writers up to the present time was carefully considered and reviewed.

HYGIENE AND EPIDEMIOLOGY.

A Precursor of Hygiene.—Professor Loeffler's Discoveries.

Though the sections as a rule have been but poorly attended an exception must be made in honour of the Section of Hygiene. Here there were moments when it was not easy to find a seat. It is true that only a small room was allotted to this section and that was a mistake. In many of the other sections members are prone to think that they have little or nothing to learn. They do not feel very desirous to hear someone they do not know read, probably so badly as to be unintelligible, a paper that is too long and contains little that is new. Therefore unless the member expects to be called upon to read a paper himself or knows that the papers about to be read are really worth hearing he is likely to prefer sight-seeing, especially in so attractive a town as Lisbon. But those who attend the Section of Hygiene are often animated by other than mere professional motives They have certain reforms, legislative measures, and other public matters to press forward. They attend the section, not merely because of the scientific interest of the papers and discussions but as a public duty. Therefore the attendance is larger and the members are, in many instances, very much in earnest Nevertheless, even this section did not get to work on the opening day till long after 9 o'clock, though the hour of meeting was 8 30 A.M., and it was not really well attended before 10 A.M. The proceedings were opened on the morning of Friday, April 20th.

The President of the Section, Dr. RICARDO JORGE, general inspector of public health in Portugal, read an introductory address in which he pointed out that man in his ignorance was the principal creator of insanitary conditions and the principal obstacle to their removal. With Herbert Spencer, he thought there should be a physical morality and the respect of health should be accounted a public and a private virtue. To sin against the laws of health was as great an evil as to sin against the laws that protect property. Fortunately, a new social science was coming into existence. They no longer agreed with the optimist that everything was for the best in the best of all possible worlds, but rather with Goethe who sadly wrote that, as we live but once, we should make that life as durable and healthy as possible Man was a social being, yet the worse evils arose from living in common, therefore it was the common business of all to remedy these evils It was this collective action for the preservation of health which constituted social hygiene. Great progress had already been achieved on these lines and he claimed that a Portuguese practitioner was among the earliest founders of modern hygiene. In 1756 Dr. Ribeiro Sanches wrote "A Treatise on the Preservation of the Health of the People," and urged that it was the duty of the State to enact laws to protect the health of the people. A medical man could not fight epidemics if the State did not endeavour to remove the cause Dr. Ribeiro Sanches, in the eighteenth century, studied the influence of air, soil, and water on the health of populations and how they might be contaminated. He dealt with medical geography and foresaw the connexion between damp soil and insects with malarial and yellow fevers He also dealt with the sanitation of dwellings in large towns, the necessity of wide streets and the quick removal of dirt. He proposed a control over dwellings by municipalities and even advocated sewers He denounced the insanitary conditions of barracks, prisons, and hospitals, pleaded for cleanliness and fresh air, and wrote strongly against what he called "smothered air" He demanded that the clothes and dwellings of the sick should be purified and mentioned tuberculosis as one of the diseases where such precautions were necessary. Instead of quarantine he proposed a rigorous cleaning of the ships; and what is more surprising urged that ships should be fumigated till all the insects and rats were killed. When it is remembered that all these reforms were proposed 150 years ago by this Portuguese practitioner, and that now we are only beginning to realise them, the President concluded that it was more easy to introduce injurious than beneficent things.

The President asked permission to display a portrait of Dr. Ribeira Sanches, who was the author of the first book on public and preventive medicine, and begged leave to place the opening sitting of the section under the auspices of this glorious Portuguese ancestor.

The section now elected its honorary presidents, voted that a telegram of sympathy should be sent to Madame Curie and then called upon Professor LOEFFLER to make a communication on[1]

A New Method of Preventive Inoculation against Foot-and-Mouth Disease.

Some years ago Professor Loeffler prepared a preventive serum by injecting horses with increasing doses of a virulent lymph which is to be found in the vesicular eruptions of sick animals. With doses of from 10 to 20 cubic centimetres of this serum hogs and sheep are perfectly protected against infection for from four to six weeks. The duration of the immunity produced by the serum was found to be much shorter for the bovine species, because the serum of a horse, foreign to the body of a bullock, is eliminated in a comparatively short time. By treating bullocks cured of the illness in the same manner as horses with increasing doses of lymph Professor Loeffler obtained a preventive serum that was also excellent for the bovine species. But as it was not possible to cultivate artificially the infectious agents of the malady it was necessary to obtain the required lymph drop by drop from the infected animals. That is why the price of the serum is somewhat high. To immunise animals in as inexpensive a manner as possible it was necessary to find a method of active immunisation with an attenuated lymph. Last year Professor Loeffler published an account of such a method. A certain amount of virulent lymph mixed with a certain quantity of preventive serum was injected under the skin. The best results were obtained from this mixture of $\frac{1}{75}$th cubic centimetre of virulent lymph and half a cubic centimetre of preventive serum. Three weeks after the injection of the mixture the injected bullocks supported $\frac{1}{50}$th cubic centimetre of virulent lymph. 15 days later an injection of $\frac{1}{10}$th cubic centimetre of lymph and after another 15 days $\frac{1}{75}$th cubic centimetre of lymph was given. Then only had the animals acquired an immunity that enabled them to resist the disease itself. This method did not cost much but it was necessary to inject the animals four times to reach the required degree of immunity. These repeated injections gave rise to many practical difficulties Therefore another effort was made to discover a method by which one single injection would suffice. Professor Loeffler succeeded in finding this method in the following manner. It was not possible to cultivate the infecting agent artificially; it had to be cultivated in the body of animals susceptible to the disease. The disease of the bullock is transmitted to the bullock by means of the lymph taken from the vesicles, then after three or four inoculations the lymph no longer produces any effect. The inoculated animal does not become ill. The result is the same if the inoculations are from hogs to hogs. The series of inoculations become more lengthy if bullocks and hogs are inoculated alternately. The only animal in the body of which the virus may be preserved is that of a sucking-pig aged about five or six weeks. In trying the lymph obtained from sucking pigs on bullocks it was observed that the bullocks, which are really more susceptible to this disease than hogs, stood rather strong doses of this lymph—$\frac{1}{25}$th or even $\frac{1}{10}$th cubic centimetre—without contracting the disease. The lymph therefore was attenuated in its virulence so far as its action on the bovine species is concerned. Unfortunately, this attenuation was not of a stable nature but it became stable if cultivated in sucking pigs of the same race. After an injection of $\frac{1}{75}$th cubic centimetre of this lymph the bullocks obtained an immunity that was well marked and durable. To avoid any risk or danger of infection the animals inoculated with the lymph received at the same time an injection of a small quantity of preventive serum, from ten to 20 cubic centimetres, under the skin and in some other part of the body. This new method was tried on several dozen bullocks at the experimental station of the Institute of Hygiene at Greifswald. Apart from the practical consequences, the scientific importance of the experiments consists in that the infecting agent of one disease attacking two different kinds of animals can be attenuated in its virulence for the one kind of animal because it has been cultivated only in the other kind of animal. By artificial cultivation in the bodies of one sort of animal the agent adapts itself to that species and is rendered less likely to infect the other species. Thus it is possible to profit by this agent attenuated in the first species to make with it preventive inoculations in the second species, even though the latter is by nature much more susceptible to the disease than the first species. Thus we have here a certain analogy with vaccination. The infecting agent of small-pox is transmitted to the calf and is cultivated in the body of the calf. By this process it is so modified that it only produces in man a local pustule. That is why it is possible to make preventive inoculations in man against small pox. There is an analogous relation between human and bovine tuberculosis. The bacillus of tuberculosis cultivated naturally and frequently in man loses its virulence for the bullock and the bacillus cultivated constantly and naturally in the bullock loses its virulence for man. Thus we may profit by the human bacillus to make preventive inoculations in bullocks against the bovine bacillus, and *vice versâ* probably it will be possible to immunise man with the bovine bacillus against infection from the human bacillus. The important result of the new researches in regard to inoculations to prevent foot-and-mouth disease is then a fact verified experimentally. It is possible to obtain a vaccine by adapting artificially the agent of a disease attacking two species, cultivating for some time this agent in the body of one species and inoculating with it the other species.

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[1] This is the account of the communication written by Professor Loeffler himself for the archives of the section which he very kindly lent to our Special Sanitary Commissioner, who reported this section for us, so that he might translate it into English.

Disinfection.

The next subject discussed was the report by Dr. GUILHERME ENNES, director of the disinfecting station at Lisbon. He urged that isolation without disinfection would fail in its purpose. But disinfection should not be intrusted to private business firms; it must be carried out under strict public control. Nor should private, charitable, and other institutions be allowed to instal on their premises disinfecting stoves without submitting them to inspection and only employing that which the Government recognised as efficacious. Such stoves should have self-registering thermometers that would show the degree of heat in the interior of the stove and how long that heat had been maintained during the operation of disinfecting.

At the conclusion of this report a few words were said as to the necessity of giving financial compensation to poor home workers—small laundresses, dressmakers, and others—whose business was often almost destroyed by the alarm caused when their premises were disinfected. Diseases would be concealed if there was a serious risk of the persons affected losing their means of livelihood. This was generally approved and the reporter explained that in Lisbon compensation was given when bedding was burnt or other objects were destroyed. It was agreed that a sanitary law to be effective must be thoroughly understood and approved by the mass of the people.

The section then adjourned.

SOME GENERAL CONSIDERATIONS AND THE FESTIVITIES OF THE WEEK.

(FROM OUR SPECIAL COMMISSIONER.)

Lisbon, April 27th.

The Congress is over and great credit rests with the Portuguese organisers and notably with the general secretary, Dr. Miguel Bombarda, who is evidently gifted with the genius of organisation. It is not so easy to see in what manner the foreign nations contributed to the success of the Congress. The foreign Governments certainly did their share in sending numerous official representatives who were distinguished by the gold braid with which the artistic silver Congress badge was suspended to their coats. There were also many who wore a silver braid and this testified that they were the delegates of faculties of medicine, schools, or learned societies. The ordinary member had a light blue-and-white ribbon for his badge and these are the colours of the town of Lisbon. As compared to other congresses the latter category of members were not as numerous and this greatly facilitated the work of organisation. But this raises the very important question of what these congresses are supposed to represent. For instance, the grand committee which allotted the Paris and Moscow prizes consisted of the Government representatives and of the presidents of the sections. Can these gentlemen be taken to represent the medical profession? This profession consists in the main of general practitioners, whereas the eminent and distinguished members of this committee were medical men who, for the most part, had very little to do with general practice. So long as the congresses are mere demonstrations of international interest and sympathy with the scientific studies of the nations represented the above considerations are not of much practical importance. But motions are now passed and efforts are made to influence legislature—not to any great extent as yet, but this will grow. Then it will be a matter of imperial necessity to deal with the question as to how votes should be taken and how those who govern these congresses are to be appointed. It is more especially the section dealing with sanitary matters and with the prevention of epidemics that touches most frequently on matters of medical politics or social legislature. This is precisely the one section which throughout was well attended and where the greatest number of motions were carried. Of course, this is quite natural. Hygiene supplies a scientific motive for legislation, and hygiene unsupported by legislation could not do much good. But if this is admitted, then it must also be admitted that it is necessary to see that opinions which are given out to the whole world in the form of motions should be endorsed by, and emanate from, truly competent and representative bodies. Again, in the hygiene section several sanitary engineers and other specialists on sanitation were admitted though they were not medical men. This is right enough, but an awkward question is opened up thereby. If sanitary engineers are to be admitted to the hygiene section of a medical congress, why should not any unqualified person whose work may be considered as ancillary to, or developmental of, any branch of medicine be eligible for membership. And once such a concession is made who is to distinguish in the crowd of unqualified individuals the man of science from the pretender?

CINTRA AND THE KING'S DINNER.

Looking back upon the busy week which has just elapsed and its attendant pleasures I must first regretfully explain that I was not able to join the numerous party that went to Cintra. The lavish hospitality and the magnificent gardens of Sir Francis Cook, Viscount Monserrat, came in for unstinted praise. It took place on the day of the London mail. But all accounts coincide in expressions of delight and admiration. There are also comical stories told of big medical men riding very small donkeys to reach the grounds that are some distance from the station.

On Saturday evening, April 21st, the King entertained at dinner some 200 guests. These were the delegates sent by the various governments to the Medical Congress and the members of the executive committee of the Congress. There were no speeches. It was a friendly gathering and demonstrated once more the keen interest the Royal Family has manifested in regard to the Congress. Indeed, I know personally that the King has carefully questioned different individuals who were in contact with members of the Congress so as to find out from independent sources whether the visitors to Portugal were pleased. Evidently the Royal Family is sincerely desirous that the Congress should produce a good impression on the numerous medical men who for the most part have seen Portugal for the first time in their lives and who may, on returning to their own country, give expression to their feelings on the subject.

THE NEW ANTI-TUBERCULOSIS DISPENSARY.

On Sunday, April 22nd, Congress did not sit, but the members were invited to visit the Anti-tuberculosis Dispensary in the morning. This institution is close to the water's edge, near the fish market, and in a very frequented part of the town. It is a beautiful white stone structure, looking more like a palace or a monumental museum than an out-patients' ward where a rough crowd of poor people may be expected to congregate. The object is to give gratuitous advice to all poor persons who are actually suffering from tuberculosis or who seem predisposed to this disease. There are to be morning and afternoon consultations. Seven medical men constitute the staff for this service. They will seek to classify the cases and while sending the more serious ones to special hospitals or sanatoriums will endeavour in other instances to organise preventive measures. The object is not merely medical treatment but investigation and material help. Money, better housing, and suitable food—these great preventative necessities—are to be supplied whenever the means for so doing can be obtained from various charitable funds and other resources. On the ground floor there are waiting-rooms for the outdoor patients and several consulting-rooms and operating rooms for minor operations, but there are no beds, so that in case of a more severe operation an ambulance would be required to take the patient either before or after the required operation, according to the nature of the case. Upstairs there is a place destined for a library, several committee rooms, and a large, handsomely furnished council chamber where some hundred persons could be seated, including special chairs for the King or other members of the Royal Family who, it is believed, will occasionally preside over meetings to be held here for the purpose of discussing administrative matters. Altogether, there is an air of great luxury and brightness about the place. Also, and with one very important and serious exception, much care has been shown to prevent contagion. All the angles are rounded off. The walls are of white tiles or paint, all washable, as also are the floors. The cases to keep instruments or dressings, the chairs, the tables, and the furniture in general, are of the latest antiseptic and washable style. But to several of the wash-stands fixed to the walls I could find no syphon trap or any other sort of trap. Testing one of these apparently untrapped pipes with a match and with a moistened finger it did seem as if there was an up-draught. This seemed, therefore, as if the airs from the sewer were penetrating the consulting- and operating-rooms. The closets were trapped but not the small lead pipes for carrying away dirty or waste water. If these pipes were carried through the wall to empty in the open air over a gully it would not matter but I could find no such gullies. Certainly this is a matter that will brook no delay, and before patients are admitted to this new and otherwise admirable institution measures should be taken to see to the trapping of all the small pipes. All the other and far more expensive anti-septic precautions adopted may be rendered futile if sewer airs are to pass over these beautiful glass and enamelled shelves and furniture, and this without let or hindrance, both day and night. Perhaps, however, I am mistaken and some sort of trapping exists but out of sight. In that case it is a pity that it should be concealed, and such concealment is in absolute opposition to the principles on which this institution is founded. One of its principal objects is to teach poor people those rules of health by which the prevalence of tuberculosis may be diminished. One of the first of these laws is to breathe pure air and therefore to trap all pipes which, communicating with the sewers, may be the means, in fact, indeed, are sure to be the means, of introducing into dwellings sewer airs of a more or less dangerous nature. Therefore traps should not only be employed but so placed that every-one can see them. Thus they may serve as an object lesson in practical hygiene and give a sense of security to all who would thus be able to see that proper precautions had been taken.

THE GALA BULL FIGHT.

In the afternoon the members of the Congress enjoyed a truly Portuguese entertainment. With admirable order little tickets of different colours—blue, white, red, and yellow—had been distributed and gave admittance to steamers with flags of the corresponding colour. On board there were luncheon baskets awaiting the passengers, so that there was no struggling to reach a buffet and the unpleasant incidents that sometimes result. For two hours the passengers were able to enjoy the fresh air and scenery of the Tagus, which inland widens out into a lake. At the furthest end of this lake is the village or small town of Villa-Franca and here the Tagus resumes the dimensions of a river. On both banks there were guards of honours, consisting of peasants mounted on horses and armed with poles, some ten feet long, which they use to drive the cattle. Their picturesque and bright-coloured attire and martial attitude made a pretty sight. Salutes were fired in our honour and when we landed showers of roses were thrown upon us by the inhabitants who lined both sides of the streets. From almost every window there hung some beautiful silk curtains or counterpanes. Most of these were crimson or yellow damask, but some were of a rich cream silk reps most artistically embroidered with flowers of many but of subdued colours. This form of decoration imparts a luxurious aspect to the streets, and when I recalled the eye-scorching bunting displayed in England and purchased for a few pence per yard I could not help thinking that there was a good deal to be learnt even in a small Portuguese village. Then I was lost in wonderment how persons evidently of very modest means, to judge from the small and simple character of the houses or cottages in which they lived, could possibly afford to have such artistic and rich silks. To my disappointment, however, I was told that some of these beautiful silks had been lent for the occasion by wealthier people whose houses did not happen to be on the road along which the members of the Congress would pass. These persons desired to help in this manner to welcome their foreign visitors.

The bull-ring to which in triumphant procession we walked is a comparatively small and modest building but it had many thousand seats which were soon filled. The bull-fight was a very different matter from what is seen in Spain. Not only are the points of the bulls' horns sawn off but the stumps that remain are carefully padded. The horses also are ridden with consummate skill and every precaution is taken to prevent the bull touching them. Banderillas are used by the men on foot and on horseback and are planted in the neck of the bull, which irritates the bull but cannot be described as torture. Just as much skill is shown as in a Spanish bull-fight and there may be just as beautiful display of costumes, but there is no killing either of the bull or of the horses. Then there are other features, such as the game of the three horsemen, one of whom wears a rose which the other two endeavour to snatch away from him. Altogether it was an artistic display of fancy costumes, beautiful horses, excellent horsemanship, powerful majestic bulls, and of an enthusiastic, excitable, and happy crowd. The King and all the Royal family again manifested their sympathy for the Congress by honouring with their presence the gala bull-fight given in our honour.

THE GEOGRAPHICAL SOCIETY'S ENTERTAINMENT.

On Monday evening the Congress was entertained by the Geographical Society in the same great hall where the opening ceremony took place. The whole of the vast floor was occupied by members of the Congress and the two galleries by members of the general Lisbonese public. On the platform there was first the guards' band and after it had played some national music a number of men and girls from the northern province of Minho came and sang and danced in their national costumes. There was also some lantern slides giving views of the Portuguese colonies. These views were not well taken and the peasants' songs and dances were the most enjoyable part of the entertainment.

THE KING'S GARDEN PARTY.

On Tuesday evening the delegates from the various governments were received by the members of the Portuguese Government; but before this all the members of the Congress had been entertained by His Majesty King Carlos in the gardens of the Necessidades Palace. This is on the side of a hill. The original trees and bushes remain and here and there only have ornamental plants been added. A clearance for lawn tennis grounds constituted the receiving centre and here the King, the Queen, and the Queen Mother walked round and talked to all who came near, thus evincing interest in the Congress, its work, and its members. In different parts of the grounds there were buffets, some for tea and light refreshments, others for wines and more solid fare. The weather was splendid, with blue spotless sky and sunshine, showing off the uniforms and the ladies' dresses in the full brightness of their colours. It was a picturesque sight and gave opportunities for many pleasant conversations and friendly greetings.

THE RECEPTION AT THE TOWN HALL.

On Wednesday evening it was the turn of the municipal authorities to manifest in honour of the Congress. This they did at their own town-hall. On approaching this building, which possesses a most artistic and harmonious frontage, I was amazed by the vast crowd filling the square where the municipal buildings stand. On entering I was likewise surprised by the size of the State stairs and the beauty of their decoration. In the corners there were cascades of giant lilies; over the flat surfaces hung enormous garlands of roses, perhaps 20 feet in length and two to three feet in circumference. Truly it was easy to realise that we were in a land of flowers. Horse guards lined the stairs, so that what with flowers and uniforms but little could be seen of the walls. All round these central stairs there are a succession of saloons. At first I was astonished to find all the windows open and a large number of persons standing by them as if to get the fresh air. This, however, proved to be no newly conceived love of ventilation but the anticipation of a fire-brigade show. In due time the engines arrived and now I began to understand why there had been so great a crowd in the square and surrounding streets. This became all the more comprehensible when the fire escapes came up. With commendable rapidity they were raised to fifth- and sixth-floor windows and balconies. Then, to the delight of the crowd, the firemen ascended and insisted on rescuing people who were quite safe and comfortable and not at all disposed to take a perilous flight on a fireman's back down a wobbly ladder into the street five or six storeys below. These were the men who had won a contest in London. They are trained by M. Fernandez and, together with a brigade from Oporto, they attended some three years ago an international contest held in London when they carried off the prize. Later when the firemen had terminated their exercises some members of the Congress also desired to show their agility and wherever sufficient room could be found there were couples dancing. There was a buffet but no speeches or drinking of toasts; in fact, no special form of reception. The municipality kept an open house, all members of the Congress were welcome, and I think I may say that they were all much impressed by the beauty of the scene and decorations. This was the last of the entertainments and on the morrow the Congress was to hold its final sitting.

THE ROYAL ACADEMY.

THOSE who enter the galleries of Burlington House hoping to find their attention arrested by important subject pictures ably painted by the leading artists of the day find themselves from year to year more liable to disappointment, and although in the exhibition now opening there will be observed many paintings of landscape admirably treated there will scarcely be noticed any among these to rank in the public esteem at all events with some which could be named of past seasons. Perhaps "Birnam Wood" (No. 246), by Mr. David Farquharson, not long an Associate of the Royal Academy but an artist of experience and sterling merit, should be esteemed as high as any. It shows a thinly wooded glade with dark tree trunks springing from a rocky soil, wreathed in the light mists that rise after the sun has sunk below the horizon. In portraiture, however, the Academy maintains as usual a high level, much as all will miss the hand of the late Mr. Charles Furze. In this class of work personal interest in the subject of the picture also attracts attention to it, and in 1906 the features of men of note are not lacking. Mr. J. S. Sargent, brilliant as ever, has not been altogether aided by the personality of his sitters, but his principal work is one of which the institution for which it has been painted should be justly proud and in which all our readers will be much interested. It is a portrait group (No. 257) painted for presentation to the Johns Hopkins University, Baltimore, and it shows Professor William Welch, Professor W. S. Halstead, Professor W. Osler, and Professor Howard Kelly grouped round a table. Their black silk gowns are relieved by the hoods of their degrees and the picture will long be remembered for its masterful treatment of sombre raiment and masculine character. The medical profession is not so largely represented on the walls as that of the law, whose members, especially when they have attained judicial rank, seem particularly given to being painted, but an admirable portrait of Sir Felix Semon (No. 37) by Professor von Herkomer hangs in the first room, not far from Mr. Sargent's picture of Lord Roberts. In the large gallery Professor Frank Clowes (No. 161) is to be seen, also on the line. He has been painted without those surroundings suggestive of his profession which some prefer, sitting on a bank in the open air with his golf clubs beside him and with a terrier lying across his knees. The portrait is that of his dog no less than of himself, as the name of the artist, Mr. Briton Riviere, R.A., will suggest. These are the principal medical portraits, but among the miniatures may be noticed (1149) Professor Robert William Reid of Aberdeen University, the name of the artist, Isabella E. Reid, suggesting that she is a lady not unfamiliar with the features which she has endowed with a character and vigour not always found in miniature painting. Mr. P. Campbell Smith (No. 1064), by Edith K. Ellis, is another good example of modern miniature work, although the ordinary everyday dress of an Englishman without the colour lent by uniform or robes smees hardly as well suited to miniature as to larger work.

Subject pictures, as has been said, are hardly so well represented as landscapes and it would be difficult in reviewing the whole exhibition in a brief note to select anything that is likely to become what is popularly known as "the picture of the year"; fortunately, however, we are only expected to look at the pictures with a medical eye and from a medical point of view. Mr. Abbey's "Columbus" (No. 143), with a flight of flamingoes flickering among the flags that surround him in his landing on the shores of America, seems hardly fitted for popularity, and Mr. F. Brangwyn's able work is not for the million. Many others whom we are accustomed to see repeat their usual subjects with variations but are none of them very insistent in their appeal to the eye. A picture which many will stand before, however, puzzling out its symbolism and discussing the not very recondite meaning of its details, is that of Mr. Sigismund Goetze) No. 710), to which he has given the title, "The Ever Open Door," with the explanatory quotation, "We brought nothing into this world and it is certain we can carry nothing out." The crowd entering the narrow portal of death, where an angel is extending a markedly cordial welcome to a Highlander fresh from his last battlefield, have abandoned in the foreground their crowns and their jewels, their palettes, and their scientific instruments which have won them fame on earth, their Parliamentary blue-books, and the other outward and visible signs of their earthly professions. Close to this heap of miscellaneous articles an infant, the only one who faces death with pleasure, sits smiling joyfully, and beyond it a mixed crowd, in which figure with many others a ballet girl and a cardinal, a schoolboy, a convict, and a Salvation lass, are divesting themselves not only of their finery but of all their clothes before passing the threshold. It is a picture which will naturally remind everyone of the same artist's work two years ago but is, perhaps, more thoughtfully imagined and less reminiscent of other attempts in the same direction. Below it, for it is above the line, hangs a picture entitled "Hush" (No. 712), by J. H. Lorimer, in which a lady bends over an infant asleep on a bed in a very airy and well-lighted room with a flock of pigeons on the window-sill. Mothers will perhaps think that if she composed the baby in an attitude more conducive to rest she would have a better chance of attaining her object, which is presumably that of prolonging his slumbers.

Of nude figures there do not seem to be quite so many as usual but among them are two graceful, lithe-limbed girls by Mr. H. S. Tuke, A.R.A. (No. 437), who are decidedly attractive. They have none of the flabbiness of the conventional undraped model and are a pleasant change from his usual bathing boys, well painted as these have always been. Perhaps the geological formation of the rocks against which one of them rests herself is left a little doubtful, but Cornish granite has varied tints, and it is upon herself and upon her companion seated on the ground that attention will be centred.

None should leave the Academy without visiting the sculpture, in which such marked advance has been shown in recent years, and those who inspect it will find, in spite of the inadequate accommodation afforded to it, that there is much to admire. The monument to Mr. and Mrs. Gladstone by Sir W. B. Richmond, R.A., of which a model is exhibited, is worthy of high praise as a dignified and impressive work. It is destined to be seen in marble in Hawarden Church, where the inscription will then be more readily legible if it is wrought in the same metal as the other decoration near it, instead of as now in gold.

MEDICINE AND THE LAW.

Claim against an Employer for Attendance upon a Workman.

IN the Bradford county-court an action was recently brought against a manufacturing firm for medical attendance upon a workman, and as the claim was disputed the facts are worth noting by medical practitioners who may be employed in similar circumstances. The plaintiff, Mr. G. H. Oliver, was summoned by telephone by the managing director of the works in question and found the patient, a boy, suffering from a fractured thigh. He suggested that the lad should be removed to the infirmary but the lad protested against being taken there, and, according to the plaintiff's evidence and that of the boy's father, the managing director said that if Mr. Oliver would undertake the case at the boy's home he would be responsible for the charges incurred. Acting on his belief that this was what the managing director in fact meant Mr. Oliver had the boy removed and afterwards attended him at his father's house, but the defendants contended in the county-court that all that had been promised on their behalf was to pay for the original attendance at the works and that the lad's father must bear the expense of everything subsequent to that. The county-court judge was of opinion that there had been a genuine misunderstanding and that neither the medical man nor the employers' managing director had made his meaning as clear as he should have done. He considered, however, that having expressly sent for Mr. Oliver in the first instance the defendants should have made it perfectly clear that they would accept no further liability and he gave judgment for the plaintiff for the amount claimed—£6 17*s.* 6*d.* It has often been pointed out in THE LANCET that when a medical man is summoned to an accident case at a place where workmen are employed he should take care that the question of who is to be liable for his fees should not be left in doubt. In this instance, however, it is not easy to see how Mr. Oliver could have done more to elucidate the matter than he did. He advised the removal of the lad to the infirmary and apperently he also made a direct inquiry as to who would pay if he attended him at his home. The representative of the firm had called him in, so that so far as that occasion was concerned he could not have expected any question to be raised and he must have thought that it was plain to everyone that he would hardly have recommended the infirmary unless the circumstances of the patient had seemed to suggest a charitable institution rather than private attendance. The mistake of the managing director is difficult to account for, but the fact that an action became necessary in order to recover the fees shows how extremely explicit the undertaking to be answerable should be if subsequent dispute is to be avoided.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bath Urban District.—Dealing in his current annual report with the subject of pre-natal mortality Dr. W. H. Symons observes that notwithstanding Section 18 of the Births and Deaths Registration Act, 1874, infants who have been born alive are sometimes buried as having been stillborn without any inquiry as to the cause of death. It seems, too, that the regulations of the Midwives Act to the effect that "in all cases where a registered medical practitioner is not in attendance the midwife shall, as soon as possible after the occurrence of the stillbirth, notify the same to the local supervising authority" are not strictly carried out in Bath, since Dr. Symons has only received eight stillbirth notifications since this Act came into force in April last, and as he thinks that midwives attend more than 50 per cent. of the births he assumes that something like 50 per cent. of the stillbirths would come to their knowledge. Probably this is a fair inference since the midwives will in the main attend the less careful classes. Dr. Symons, from a study of the local records, estimates that about 60 children are annually buried as stillborn in Bath and he thinks that all stillbirths should be registered. Referring to the subject of the sanatorium treatment of pulmonary tuberculosis Dr. Symons states that it is too early to draw conclusions as to the results of the open-air treatment at the Winsley Sanatorium which has been erected for the counties of Gloucestershire, Somersetshire, and Wilts. Eight cases have already occupied the two beds which are maintained at this institution by the corporation of Bath but, like most of the cases so far under treatment, these cases were not very suitable ones, as the number of applications for the beds have been too few to admit of selection.

Borough of Kingston-upon-Thames.—Mr. H. Beale Collins reports that since the attendances at school have been more closely looked after by the school attendance officers the number of cases of scabies has increased, a fact which he attributes to the circumstances that dirtier children have been brought into the schools. He adds that in 30 cases absence from school has been allowed and as some of these cases are absent for months at a time a large number of attendances have been lost. He suggests that if a nurse were appointed to look after these cases they might be cured in a relatively short space of time and in his opinion this same nurse might be used for helping the school teacher to discover cases of the disease in their early stages. 32 physically defective children were found in the schools during 1905 and separate class-rooms are being prepared for them. A special open-air school is suggested for certain cases of pulmonary tuberculosis. As regards vision 121 children were found grossly defective and unless provided with proper glasses they will lose a large portion of their educational facilities.

Bromsgrove Urban District.—Dr. H. Cameron Kidd has been led by a further experience to modify materially the views which he formerly held as regards the advantages of the isolation hospital and he has discovered that these institutions are not always without their drawbacks. In the hospital to which he specially refers there were during 1905 139 patients with only three deaths—a fact which, as he observes, speaks well for the success of the treatment practised. But Dr. Kidd adds that although there has been recently instituted at this hospital an arrangement by which convalescent patients are separated from those in an acute stage there have nevertheless been a number of children who have suffered from such complications as otorrhœa and rhinorrhœa with obstinate soreness of the lips and nostrils. He thinks "that these complications have such obvious connexion with the aggregation of cases in a confined space that I cannot deny that hospital conditions appear to have something to do with their causation." But Dr. Kidd tells us that the wards have not been overcrowded as they used to be in former times when, we infer from his comments, no such complications arose. Among the suggestions made by Dr. Kidd is the provision of the cellular system such as obtains at the Pasteur Institute in Paris, wherein when a patient is admitted, all the other patients are, notwithstanding the cells, inoculated against the disease most recently admitted, that is, of course, if the disease is one—such as diphtheria or small-pox—against which preventive inoculation can be practised. There is, we may add, already one such hospital in England. Dr. Kidd, however, regards such a provision as impracticable and he suggests that there shall be a differentiation among the notified cases, those where there is danger of infection at home being removed to hospital, others being treated in their homes. The diminution of hospital cases which would result would, Dr. Kidd thinks, enable the different blocks to be used for patients in different stages of the same disease. The selection of suitable cases should, he proposes, be left in the hands of the medical officer of health. As regards these observations, we may point out that the incidence of such complications as are here referred to varies materially from year to year, as will be seen by a reference to the annual reports of the Metropolitan Asylums Board, and it is not improbable that these variations also obtain in home-treated cases. But as to this point Dr. Kidd will doubtless have more to tell us next year, as he is probably giving this matter of the comparative incidence of otorrhœa and rhinorrhœa in home and hospital cases his attention. We may also add that where there is a prevalence of such cases in hospital it is always desirable to make sure that any syringes or other instruments used in the treatment of the cases are thoroughly disinfected—i.e., to see that the nurses are carrying out the instructions of the medical officer.

Teignmouth Urban District.—Dr. F. C. H. Piggott is to be congratulated on having at last prevailed upon the sanitary authorities of this district to provide an isolation hospital to which the medical practitioners of the town will not hesitate to send their patients, and commenting upon the absence of such provision in 1905 Dr. Piggott observes that inability to isolate enteric fever "undoubtedly contributed to the issue of the solitary fatal case whose surroundings at home were altogether unfavourable." We gather from Dr. Piggott's report that the Devonshire county council, after holding a local inquiry in 1904 as to the desirability of declaring the whole county a hospital district for the purpose of dealing with pulmonary tuberculosis, came to the conclusion that it would not be justified in making such an order. It is only by making an order such as this that a county council is enabled to erect, or to contribute to the erection of, sanatoriums for tuberculosis.

Borough of Eastbourne.—Dr. W. G. Willoughby, who has been instrumental in bringing about the removal of 94·3 per cent. of the total notified cases of scarlet fever, diphtheria, and enteric fever, has no doubts as to the advantages of an isolation hospital and he observes that "the continued popularity of the sanatorium is very gratifying and is a great factor in the prevention of the spread of infectious disease." He regards the maintenance of a popular infectious diseases hospital as an essential provision, most of all in a health resort. In suggesting the provision of a sanatorium for consumption Dr. Willoughby thinks that admission thereto should be limited to ratepayers of some years' standing, since it would be most inadvisable to attract consumptive patients to Eastbourne.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9435 births and 5080 deaths were registered in the week ending April 28th. The annual rate of mortality in these towns, which had been 17·0, 17·1, and 17·3 per 1000 in the three preceding weeks, declined last week to 16·7; thus the mean rate during the first four weeks of the current quarter was equal to 17·0 in the 76 towns, while in London it was 17·7. The lowest death-rates in the 76 towns during the week were 7·7 in Walsall, 7·9 in Burton-upon-Trent, 8·3 in Wolverhampton, and 8·8 in East Ham; the rates in the other towns ranged upwards to 21·1 in Oldham, 22·3 in Birmingham, 22·8 in Yarmouth and in Hanley, and 23·4 in Liverpool. The 5080 deaths in the 76 towns showed a decline of 170 from the number in the previous week and included 483 which were referred to the principal infectious diseases, against 518 and 519 in the two preceding weeks; of these, 199 resulted from measles, 133 from whooping-cough, 52 from diarrhœa, 46 from diphtheria, 35 from scarlet fever, 18 from "fever" (principally enteric), and not one from small-pox. The deaths from these diseases were equal to an annual rate of 1·6 per 1000 in the 76 towns and to 1·7 in London. No death from any of these infectious diseases was registered last week in Northampton, Ipswich, Norwich, Stockport, Rochdale, and in eight other towns, while they caused the highest death-rates in Bristol, Middlesbrough, Liverpool, Bury, and Yarmouth. The highest death-rates from measles occurred in Bury and Yarmouth, in each of which towns this disease caused five deaths; from whooping-cough in West Bromwich, Warrington, and Wallasey; and from diarrhœa in Oldham. Diphtheria caused three deaths in Walthamstow and scarlet fever three in Tottenham. "Fever" showed no marked fatality in any of the large towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals at the end of last week were but six, no new case having been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, April 28th, was 2240, showing an increase of 15 upon the declining numbers in recent weeks; 314 new cases were admitted during the week under notice, showing a further increase upon the 270 and 288 cases admitted in the two preceding weeks. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had been 332, 357, and 399 in the three preceding weeks, declined last week to 361, but exceeded by 72 the corrected average for the corresponding week in the four preceding years, 1902–05. The causes of 50, or rather less than 1 per cent., of the deaths registered during the week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Nottingham, Salford, Leeds, Newcastle-upon-Tyne, and in 50 other large towns, whereas the proportion of uncertified deaths showed a considerable excess in Birmingham, Liverpool, St. Helens, Rochdale, Burnley, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·4, 19·1, and 17·6 per 1000 in the three preceding weeks, rose again to 18·4 during the week ending April 28th, and exceeded by 1·7 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·6 and 16·6 in Leith and Perth, to 19·0 in Dundee, 21·4 in Greenock, and 23·4 in Paisley. The 631 deaths in these eight towns included 24 which were referred to whooping-cough, 20 to measles, 11 to diarrhœa, four to diphtheria, three to scarlet fever, and not one either to small-pox or to "fever." In all, 62 deaths resulted from these principal infectious diseases during the week, against 54 and 53 in the two preceding weeks. These 62 deaths were equal to an annual rate of 1·8 per 1000, which exceeded by 0·2 the mean rate during the week from the same diseases in the 76 large English towns. The 24 fatal cases of whooping-cough in the eight towns showed an increase of ten upon the number in the previous week and included 13 in Glasgow, four in Dundee, and two both in Edinburgh and Leith. The 20 deaths from measles exceeded the number in the previous week by five, including 12 in Glasgow and four in Edinburgh. Of the 11 deaths referred to diarrhœa five occurred in Glasgow, three in Greenock, and two in Edinburgh. The four fatal cases of diphtheria included three in Glasgow and one in Paisley; and all the three deaths from scarlet fever were recorded in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 170 and 140 in the two previous weeks, further declined last week to 135, but exceeded by 14 the number referred to these diseases in the corresponding week of last year. The causes of 19, or rather more than 3 per cent., of the deaths registered in the eight towns during the week were not certified, the proportion of uncertified deaths in the 76 English towns being rather less than 1 per cent.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·1, 23·4, and 28·1 per 1000 in the three preceding weeks, declined to 22·4 during the week ending April 28th. During the first four weeks of the current quarter the death-rate in the city averaged 23·8 per 1000, against 17·7 in London and 19·2 in Edinburgh. The 163 deaths of persons belonging to Dublin registered during the week under notice showed, however, a decline of 41 from the high number in the previous week; they included four which were referred to diarrhœa, two to whooping-cough, two to diphtheria, one each to measles and "fever," and not one either to scarlet fever or small-pox. The ten deaths from these principal infectious diseases were equal to an annual rate of 1·4 per 1000, the rate from these diseases in the same week being 1·7 in London and in Edinburgh. The deaths referred to diarrhœa and diphtheria in Dublin exceeded the numbers in recent weeks. The 163 deaths included 25 of infants under one year of age and 51 of persons aged upwards of 60 years; the deaths of elderly persons showed a marked decline from the number returned in the previous week. Two inquest cases and two deaths from violence were registered; and 66, or more than 40 per cent., of the deaths registered were recorded in public institutions. The causes of five, or more than 3 per cent., of the deaths were not certified either by a registered medical practitioner or by a coroner.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon Graham Egerton Kennedy has been placed on the Retired List at his own request (dated April 27th, 1906).

The following appointments are notified:—Fleet Surgeons: J. H. Stenhouse to the *Queen*, on recommissioning; L. Bidwell to the *Aboukir*; and J. L. Thomas to the *President*, for three months' course at West London Hospital. Surgeons: G. M. O. Richards to the *Exmouth* and E. R. L. Thomas to the *Victory*, for R.N. Barracks.

ROYAL ARMY MEDICAL CORPS.

Major T. C. McCulloch joins the London District. Captain R. F. M. Fawcett is granted leave of absence to June 12th next, with permission to travel in Canada. Captain H. E. Howley and Captain J. G. Foster are appointed for duty at Belfast.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Thomas Holt to be Surgeon-Major (dated April 7th, 1906).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Surgeon-Captain Samuel Macfarlane Sloan, Army Medical Reserve of Officers (late Captain, Scottish Command, Glasgow Companies, Royal Army Medical Corps (Volunteers)), to be Captain (dated March 15th, 1906); Supernumerary Lieutenant (Honorary Lieutenant in the Army) G. Lane to be Captain, remaining seconded (dated March 30th, 1906).

VOLUNTEER CORPS.

Rifles: 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment): Supernumerary Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel W. D. Waterhouse resigns his appointment of Brigade-Surgeon-Lieutenant-Colonel (Senior Medical Officer), 2nd London Volunteer Infantry Brigade (dated April 1st, 1906). 4th Volunteer

Battalion the Norfolk Regiment: Surgeon-Captain C. A. O. Owens (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Norfolk Volunteer Infantry Brigade) to be Major (dated August 1st, 1902). 5th (The Hay Tor) Volunteer Battalion the Devonshire Regiment: Walter Fitzpatrick to be Surgeon-Lieutenant (dated April 28th, 1905). 1st Volunteer Battalion the Leicestershire Regiment: Surgeon-Lieutenant B. Stracey resigns his commission (dated April 28th, 1906). 4th Volunteer Battalion the Cameronians (Scottish Rifles): Alexander Bankier Sloan to be Surgeon-Lieutenant (dated April 28th, 1906). 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant-Colonel H. W. Roberts is granted the honorary rank of Surgeon-Colonel (dated April 23th, 1906). 14th Middlesex (Inns of Court) Volunteer Rifle Corps: Surgeon-Major H. M. Ramsay resigns his commission (dated April 9th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Highland Light Infantry Bearer Company: James Alexander Hamilton Aitken to be Lieutenant (dated April 22th, 1906). 2nd London Bearer Company: Captain J. N. Brown is appointed Brigade-Surgeon-Lieutenant-Colonel whilst employed as Senior Medical Officer of the 2nd London Volunteer Infantry Brigade (dated April 1st, 1906). Worcester and Warwick Bearer Company: George William Craig to be Lieutenant (dated April 28th, 1906).

THE VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force, who have been duly recommended for the same under the terms of the Royal Warrant, dated July 25th, 1892:—*London District: Rifle:* 20th Middlesex (Artists') Volunteer Rifle Corps: Surgeon-Captain and Honorary Surgeon-Major Charles Sempill de Segundo. *Northern Command: Rifle:* 4th Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant (Honorary Major, Volunteers) John Crawhall Nichol. *Scottish Command: Artillery:* 1st Renfrew and Dumbartonshire Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant-Colonel William Robert Sewell. *Southern Command: Artillery:* 1st Devonshire Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant George Clement Searle. *Western Command: Rifle:* 2nd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Major James Scott Wilson. 1st Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel William Herbert Packer.

THE VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The annual dinner of the staff and members of the Volunteer Ambulance School of Instruction will take place at the Trocadero Restaurant on Thursday, May 17th (the anniversary of the relief of Mafeking), at 7.45 P.M. Surgeon-General A. H. Keogh, C.B., Director-General of the Army Medical Department, will be the guest of the school. The following have also accepted invitations to be present: Colonel A. T. Sloggett, C.M.G., R.A.M.C., principal medical officer, London District; Surgeon-Colonel J. Cantlie, London Companies, R.A.M.C. (Vols.), Brigade-Surgeon-Lieutenant-Colonel C. E. Harrison, Brigade of Guards; Major H. C. Thurston, C.M.G., R.A.M.C., War Office; Mr. Mayo Robson, Dr. James Galloway, and Dr. A. Eichholz. During dinner the string band of the 1st Cadet Battalion Royal Fusiliers will perform a selection of music by permission of Lieutenant-Colonel F. Sheffield, commanding.

A MEDICAL COMMISSIONER ATTACKED WITH SLEEPING SICKNESS.

A Reuter's telegram, dated Bukobe (Victoria Nyanza), April 7th, states that it was rumoured at all the points on Lake Victoria that one of the Sleeping Sickness Commissioners sent to Uganda by the Royal Society had contracted the disease whilst engaged in carrying out investigations concerning its ravages at Entebbe, the Government headquarters. The reports are confirmed and it is learned that the Commissioners, Lieutenant Gray, R.A.M.C., and Lieutenant Forbes M. G. Tulloch, R.A.M.C., have left for England. At the end of last month an official telegram was received in London stating that trypanosomes had been found in Lieutenant Tulloch's blood and that as soon as he was well enough he would leave for England. Lieutenant Gray, who was due to leave Uganda on leave of absence at about this time, would, doubtless, accompany Lieutenant Tulloch to England.

DEATHS IN THE SERVICES.

Surgeon-Major Francis Henry Plumptre, I.M.S. (retired), at his residence, Newton Abbot, Devon, on April 17th, aged 78 years. The deceased, who was formerly in the Bombay army, had served in the Persian campaign of 1856–57 and also in the Abyssinian campaign of 1867–68. After his retirement he resided in Newton Abbot and was on the commission of the peace for the county of Devon.

Correspondence.

"Audi alteram partem."

THE COMPULSORY NOTIFICATION OF PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—It is an undoubted opprobrium of medical science that so little is done for its progress compared with the work accomplished in other branches of nature-knowledge, and even in surgery, her sister study. The budding physician starts with enthusiastic notions of worlds to conquer and for a time is completely devoted to his new mistress. But as the necessity of making his living impresses itself more and more on his mind, and particularly when what Sir James Paget called in his day the guinea trap appeals to his pockets, he forgets his first fancy.

The cure for this unfortunate condition of matters is the endowment by the State of medical research, which surely with the advance of civilisation must by-and-by become an accomplished fact. Meantime, all honour to those who, Hunter-like, plod on the path of progress, placing a cairn here, making a way there, cheerfully and unweariedly, amidst, alas, too little encouragement. In this connexion I venture to single out two names—those of Jonathan Hutchinson and Byrom Bramwell. Consider the almost Herculean efforts of those two men and the very small recognition of their undenying efforts by the profession at large. That wonderful journal the *Archives of Surgery* has ceased to exist and I fear that *Clinical Studies* does not receive one-tenth part of the support the publication deserves. It costs little and it is worth its weight in gold. My thoughts have taken this turn in connexion with Dr. Bramwell's *Clinical Studies* for April. While giving him unstinted praise for the constant flow of the most interesting kind of matter, he will, I trust, pardon me if I seem to question his great authority and experience. He appeals to medical practitioners to imitate his example and to urge that phthisis should be compulsorily notified by law. I humbly beg to demur to this dictum, and without entering on the wide field of casuistry involved in forcing an individual to place himself voluntarily as a patient in a doctor's hands in a position of *confidence*, to make that doctor reveal what he has got to know in this confidential relation, yet I may be allowed to advance what I take to be some plain objections against the compulsory legal injunction aimed at.

The first is the terrible infliction of labeling any young man or young woman *openly* as a leper to be shunned. Take the kitchenmaid he mentions as the subject of consumption as an example. She was known to be phthisical, I gather, nearly a year before she appeared at the Edinburgh Infirmary a second time. Dr. Bramwell would have some months before certified her as dangerous to others had the law compelled him to do so. But what was the poor girl to do? She must live. She would have been condemned to go out to the streets. It seems to me better that she should die. The public must not shut its eyes to hard facts. With compulsory notification, or rather before we get compulsory notification, there must be the necessary asylums for those so certified.

So much for that objection. The second is that we shall drive every working man and woman *straight* into the hands of the quack, and they are rather too ready to follow that alternative as it is. But supposing an early case does come under the notice of a struggling young doctor and if sanatoriums are to do any real good this is the stage when notification is of the greatest value. Is he, if he can help—that is, if there be any doubts in his mind of the nature of the case—and there are often, very often, many doubts—is he to lose his patient and very likely the patient's connexion by proclaiming to the world, "Here is a leper!" I doubt very much whether we are not asking more than human nature will give. Is it not likely that he will salve his conscience by the chances of a diagnostic mistake and not notify the case at all until, perhaps, it gets so bad that it matters little to him or to his patient whether he does notify or not.

No, Sirs, it will be time enough to enforce notification when the necessary sanatoriums all over the country are ready—and that is a very big job—and not sooner. Long before any kind of compulsory notification was heard of for fevers, there were fever wards and fever hospitals in most populous places. The public has to be *educated*, and this step in the path, as I readily allow, of genuine sanitary progress must come, as everything natural and proper comes, by the laws of evolution and needs much time and much consideration for its complete development.

I am, Sirs, yours faithfully,
W. BRUCE,
April 30th, 1906. Medical Officer of Health of Ross and Cromarty.

THE RECTAL INJECTION OF ANTI-STREPTOCOCCIC SERUM.

To the Editors of THE LANCET.

SIRS,—It was with great interest that I read Dr. Nathan Raw's paper on the value of rectal injections of antistreptococcic serum in ulcerative endocarditis[1] as this week a paper was read by Dr. W. Soltau Fenwick and myself before the Royal Medical and Chirurgical Society on the rectal injection of the same serum in gonorrhœal infections and some cases of purpura hæmorrhagica.[2] The administration of various sera by rectal injection has been practised by us at the London Temperance Hospital during the past six years and two years ago you were good enough to publish a short letter by me on its use. Serum appears to have precisely the same effect when introduced per rectum as if injected subcutaneously, and its action seems equally rapid, while the danger of spreading inflammations and local abscesses at the site of injection is removed and the patient does not look upon the injection in the light of an operation.

I am, Sirs, yours faithfully,
J. PORTER PARKINSON.
Wimpole-street, W., April 28th, 1906.

IN PRAISE OF RUM AND MILK.

To the Editors of THE LANCET.

SIRS,—I was very pleased to read Dr. Francis T. Bond's letter on the above subject. I have prescribed rum and milk in pulmonary complaints with very gratifying results for about 25 years. I have always found good sound rum better assimilated than any other spirit and it seems to combine well with milk, especially separated milk.

I am, Sirs, yours faithfully,
Manchester-square, W., April 28th, 1906. THOMAS DUTTON.

PASTEURISED MILK AND INFANT FEEDING.

To the Editors of THE LANCET.

SIRS,—It may not be known to many of your readers that several of the large dairy companies in London are supplying pasteurised milk to all their customers without any indication that the milk has been so treated. This fact was brought to my knowledge in the following manner: At a children's hospital in London the medical staff decided to use pure fresh milk, unchanged by heat, preservatives, or otherwise, for the in-patients. Extra precautions were taken so as to maintain the purity and freshness of the milk which was to be supplied in sealed and sterilised bottles, and was to be kept on ice. A large dairy company undertook to supply such milk, and did so for about 18 months. At the end of that time it was accidentally discovered that the milk for about 12 months had been pasteurised at the dairy. The company when taxed with this breach of contract, expressed regret but said that it had acted on high medical authority and that pasteurised milk was really safer for infants than milk not so treated. Into this question the medical staff did not enter but proceeded to secure untreated milk from another source. This action on the part of the dairy companies is one of considerable public importance. In the first place, the pasteurising of the milk is not undertaken by them for the benefit of the infant population but for the purpose of protecting themselves from spreading typhoid fever or other disease through contaminated milk, with subsequent legal proceedings and heavy damages. They may or they may not be justified in taking this precaution, but their customers are at least entitled to know the fact that the milk has been pasteurised. What is cows' milk? This is a difficult question to answer, but it is certainly inadvisable to allow the dairy companies to plead in the future "the custom of the trade" in selling pasteurised milk when fresh cows' milk is ordered. If pasteurised milk is to continue to be sold it ought to be labelled as such, just as condensed and "humanised" milks are.

Again, the health of the children may be seriously affected by this action of the dairy companies. At present, and largely owing to medical teaching, it is the custom in many households to boil the milk on delivery. If the milk is first pasteurised by the seller and then boiled by the purchaser, it will be a poor, devitalised sort of food which eventually reaches the infant, and anæmia and scurvy may be expected to follow. These are the results which one would anticipate on theoretical grounds, and practical evidence is forthcoming as follows: Dr. W. S. Colman[1] relates that a short time ago there was an epidemic of infantile scurvy among children in Berlin supplied with pasteurised milk from an institution, but it was found to be confined to children whose parents, as an additional precaution, boiled the pasteurised milk for some time, after it was delivered to the house. More recently Dr. J. A. Coutts[2] has recorded three cases of scurvy at the East London Hospital for which the patients were *ordered* fresh cows' milk and were further treated in the usual way with raw meat-juice, scraped potato, and lemon-juice. In none of the cases did the usual speedy resolution of the subperiosteal clot take place. "That three consecutive cases of scurvy should take this extraordinary course led to an inquiry and it was discovered that for several months the dairy company to the hospital had been supplying pasteurised instead of fresh milk, without the hospital authorities being adequately informed of the change. On the substitution of fresh for pasteurised milk each infant began to improve." These facts speak for themselves and would seem to justify the anticipation that injury to the health of the children and aggravation of their diseases will result if this action of the dairy companies is allowed to continue. More especially will the danger be present if the public and the profession are kept in ignorance of the fact that the milk is being pasteurised.

I am, Sirs, yours faithfully,
April 30th, 1906. G. A. SUTHERLAND.

100 CONSECUTIVE CASES OF MEASLES WITHOUT CHRONIC MIDDLE-EAR DISEASE.

To the Editors of THE LANCET.

SIRS,—Within the last 12 months I kept notes of the first 100 cases of measles which I attended during an epidemic and amongst this number I had not a single case of chronic middle-ear disease. At the most I had one or two cases of earache which soon got well without discharge of any kind. Although I have no actual figures to prove my contention I feel sure that 20 years ago it would not have been possible to attend 100 consecutive cases of measles without at the same time having several cases of "running ears." When I began practice 14 years ago it was common to find on asking the cause of deafness or of purulent ear disease to be told in an off-hand manner, as if it was a matter of course, that the mischief had existed since the patient had had measles. Within recent years I have found that measles is not so often given as a cause of this troublesome affection but in order to prove or disprove the correctness of my impressions I made the observations now recorded. That the epidemic was not particularly mild is shown by the facts as follows. The deaths numbered four, two being due to broncho-pneumonia; one was helped by the teething process and one by whooping-cough, and all occurred in children under 18 months. Other notable points are: two out of the 100 were adults, and they had not had the disease before, six had had measles previously, and one or two had had more than one attack. "Pronounced"

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[1] THE LANCET, April 21st, 1906, p. 1103.
[2] THE LANCET, May 5th, p. 1254.

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[1] The Practitioner, October, 1905, p. 535.
[2] West London Medical Journal, April, 1906, p. 82.

broncho pneumonia was the commonest complication. Three had well-marked laryngitis—one of these began with laryngitis as the first symptom of the disease and one had subsequent laryngeal paralysis (a girl, aged six years). The majority of the patients were under five years of age and belonged to the working-class section of the community.

One may well ask, what is the reason of this great improvement in results as regards the middle ear? I believe it is due (1) to a rise in the standard of general cleanliness amongst the great body of the people; and (2) to a better appreciation of the laws of hygiene as therapeutic agents amongst the members of the medical profession These laws I have tried to interpret and to practise as follows: 1. To keep the rooms comfortably cool and as fresh as possible, as opposed to the sweltering heat of former days. 2. By attention to the patient's skin; frequent sponging down. Changing the patient's dress as often as necessary. Wrapping the child in a sheet with a blanket outside instead of the sweat-laden blanket in which the poor patient used to be invariably wrapped. 3. By allowing the patient plenty of cold water, soda water, lemonade, or other cool fluid of a similar kind in the early days of the disease. The food to be diluted milk. Not forcing solid food against the wish of the patient. By adopting this line the pharynx and naso pharynx are kept sweet and hence the chances of mischief extending along the Eustachian tube to the middle ear are greatly reduced. Tact is necessary often to get these orders carried out, especially if there is a grandmother in the question. Medically I give one-twentieth of a grain of tartrated antimony along with half a fluid drachm of solution of ammonia and the same of simple syrup three or four times a day to still further keep the skin and kidneys active. When the cough is particularly troublesome I add to the foregoing one or two minims of tincture of opium according to age. Ordinarily I leave the cough to take care of itself.

I do not believe measles has lost its virulence and if patients, generally speaking, were placed under the foul conditions of former days chronic affections of the middle ear would be as frequently met with as of yore.

I am, Sirs, yours faithfully,
Leeds, April 26th, 1906. GORDON SHARP.

THE BRITISH DENTAL ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Will you kindly permit me through your columns to apply for the loan of specimens—microscopical sections, photographs, or skiagrams—of odontomes and such tumours as may be included when this term is used in its widest sense? The loan of specimens from so many collections, both public and private, has been promised us that we are endeavouring to make this collection as complete as possible, and by the aid of medical men who have been fortunate enough to obtain specimens of these tumours we hope we may add to our museum. The museum is to be held in connexion with the annual meeting of the British Dental Association which takes place in London at the Examination Hall of the Royal College of Surgeons on May 17th, 18th, and 19th next. Will those who possess specimens be good enough to communicate with me at the address given below?

I am, Sirs, yours faithfully,
W. W. JAMES,
Honorary Secretary, Museum Committee.
12, Wimpole-street, W., April 30th, 1906.

MEDICAL AND DENTAL DEFENCE UNION OF SCOTLAND, LIMITED: PURVES v. CARSWELL AND GILCHRIST.

To the Editors of THE LANCET.

SIRS,—In sending the annual report of the union to non-members a note was inclosed stating that the defence in the above actions was conducted by this union. In view of the vital importance of the issue to the medical profession generally the council, after due consideration, decided to give the defenders the use of the name and organisation of the union, but unfortunately a misconception seems to have arisen as regards the liability of this union for the costs. Mr. John Carswell and Dr. Marion Gilchrist not being members of the union when the matter occurred out of which the action arose, were therefore excluded from the privileges of membership in respect of that matter and have to pay the entire costs of the action, amounting to fully £900. As a misinterpretation of the note accompanying the report is apparently checking the flow of subscriptions to the Carswell and Gilchrist Fund the union desires by publishing this explanation to second the efforts of the special committee in soliciting contributions, which should be sent to Dr. W. G. Dun, 15, Royal crescent, Glasgow, W.

We are, Sirs, yours faithfully,
ROBERT W. FORREST, M.D. Glasg., Chairman.
WILLIAM YOUNG, Secretary.
108, West George-street, Glasgow, April, 1906.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE summer term commenced on April 23rd and the students seem to have settled down to steady hard work at once. This is perhaps due to the fact that the summer term is short and that many of the University examinations take place during the latter half of June. The Principal, Sir Oliver Lodge, has returned after his long rest. His holiday appears to have had very beneficial effects, for he looks strong and well. It is pleasant to see his big form and cheery, purposeful face about the place again, for he seems to diffuse encouragement and energy into everything which is under his charge.—It is becoming the custom in the Medical School for one or more members of the staff to deliver during this session short courses of lectures to which practitioners in the city and surrounding district and the students of the University are invited. The lectures are delivered on Thursday afternoons at 4 P.M. in the medical theatre, as has been already announced in THE LANCET. They were commenced on April 26th by Professor J. T. J. Morrison who is delivering a course of three lectures on the Legal and Social Relations of English Medicine, Past and Present, and they will be continued by Professor Robert Saundby who, on June 7th, commences a course of three lectures on Medical Ethics. On May 17th and May 24th Dr. O. E. Purslow, who is Ingleby lecturer for the year, will lecture on the Management of a case of Labour. The Ingleby lectures are also open both to practitioners and students. Professor Morrison's lectures have been extremely interesting, for by examining old records and ancient books he has been able to place before his audience in a most attractive manner an account of the history of the practice of medicine and surgery in this country, tracing it from its first beginnings in the hands of the priesthood to its transference to the laity and showing how gradually, at various times, the practitioners have attempted to consolidate their powers and privileges. Those of us who have but little time for looking into old records are deeply grateful to Professor Morrison for the glimpse he has given us of many past events associated with the history of the growth of our profession.—The new pathological department was not in a sufficiently advanced state to be opened at the beginning of the session and I understand that there will be no formal opening ceremony. Work will probably be commenced in the new buildings in about three weeks or a month. In future the pathological department will do much more work for the health department of the city than it has hitherto undertaken. This increase of work will necessitate the appointment of an additional assistant who will have to devote himself chiefly to public health work.

The Women's Hospital.

There is much cause for congratulation and a little for regret in association with the annual report of the Women's Hospital. The statistics for the year show that the total number of cases treated was 17,656, or 993 less than the previous year, the diminution in number being accounted for by the fact that the out-patient department was closed last August for alterations and additions. The number of in-patients treated was 492, an increase of 13 on the previous year. The most satisfactory parts of the report are those dealing with the new hospital which was opened in September last and the account of the mortality-rate after abdominal section. The new buildings and equipment have added greatly to the efficiency of the arrangements of the hospital and the death-rate in 275 cases of abdominal section was only 2·1 per cent. In the previous year the death-rate was 2·3 per cent., and the average rate since the founding of the hospital in 1904 is 5·7 per cent. The rate for the past year compares very well with that of other similar institutions. The main cause for regret in the report was the statement regarding finances. The new hospital was only open for three months during 1905 and the ordinary income and expenditure account showed an adverse balance of £1500. It follows, therefore, either that some enlarged source of annual income must be attained or that the work of the hospital must be crippled. The subscription list only amounts to £1000, a strangely small amount from a city with so many wealthy inhabitants to such an important hospital, and it is certain that the annual income must be increased by £1000 if the work is to be continued on its present scale. The hospital is to receive a legacy of £308 under the will of the late Mrs. Hannah Pullom, who left the residue of her property to the institution.

Tree Planting in the Black Country.

The Midland Reafforesting Association has been at work for three years and the results it has attained have been most encouraging. Its members three years ago were 50 in number; they are now 250 and many people who scoffed at the idea of success are becoming convinced of their error. Through the agency of the association 70,630 trees have been planted on 43 acres of land. Since last year 37 acres have been planted and of these 34 acres were land at Moorcroft near Moxley, belonging to the South Staffordshire Joint Small-pox Hospital Board. The plantation thus established lies to the north of the Great Western Railway and it will replace a black patch, which was in full view of travellers, by a verdant grove of trees, for the trees, which were examined a short time ago, seem to be establishing themselves well. The corporation of Wednesbury needs a park extension and in order to provide it the association has planted 2000 trees on two acres of pit-waste at King's Hill. No special soil is used for planting purposes, for it is found that a mixture of the burnt ash of the mounds with the blue clay, or "church," which is found upon them makes a satisfactory soil. The chief difficulty, however, in establishing plantations on the bare mounds of ash and waste is not the soil but the impurity of the atmosphere. There is reason to believe, however, that the atmosphere is becoming less impure and it is hoped that in future unnecessary emissions from forges and furnaces will be abated. Smoke alone is not so great an enemy and Dudley Castle Hill is now thickly covered with trees though furnaces abound in the neighbourhood. In addition to other work the association has established four nurseries and has stocked them with trees likely to be most useful. Now that it has demonstrated that success can be obtained it is going to try new varieties of trees which have not hitherto been grown in the Black Country. Last September the association asked for gifts of willow cuttings and His Majesty the King was among the first to respond with an order for 20,000 to be sent from Windsor. Some of those received were sent to the plantations and others were placed in the nurseries. At the present moment the association has in stock for next season 23,918 trees and 35,500 cuttings. Much has been done in the past three years and probably more will be done in the future, for people are realising that the association is doing good work. Therefore it will meet with more help and encouragement. It will have the full sympathy of the medical profession, for it is not only making the surroundings of the people more beautiful and so increasing their happiness and ideals, but it is also improving the air and the land and so giving the inhabitants better chances of health and strength.

Birth- and Death-rates.

Birmingham has established another lowest quarterly birth-rate. the birth-rate for the first quarter of the year being 30·6, which is the lowest on record for that quarter. It is higher, however, than the rate in the fourth quarter of last year, 26·9, which was also a record for its quarter. The rate varies in different wards from 19·1 to 40 per 1000. The death-rate for the first quarter, 17·9 per 1000, is slightly higher than that for the corresponding quarter of the preceding year, but still it is good for its quarter. The medical officer of health of Worcester points out in his annual report that the general death-rate of that city declines each year, but the infantile death-rate shows no improvement, indeed, during the past year it was 156 per 1000, which is slightly higher than the average rate for the previous ten years. This is the more remarkable since there have been no marked epidemics of infectious disease during the year. It is evident that the people in Worcester need instruction in the care of their children. Bilston has been suffering from measles and whooping-cough, with the result that the medical officer had to report that during March there were 69 deaths, or 32 more than in the corresponding month of the previous year. Of the 69, who died only 20 were over five years of age.

May 1st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Laying of the Foundation-stone of the Liverpool Country Hospital for Chronic Diseases of Children.

THE foundation-stone of the Country Hospital for Children, which is being built at Heswall, was laid on April 21st by Mr. Andrew Gibson. When the entire scheme is carried through the hospital will provide accommodation for 200 beds and its total cost will be £60,000. The committee is confining its initial effort to the provision of only 100 beds. During the seven years that the institution has occupied temporary quarters at the convalescent home, West Kirby, experience of great importance to the work of treating children suffering from chronic diseases has been gained. The value of uninterrupted treatment in the fresh air of the country has been amply demonstrated, and the good results which have attended the work at West Kirby, where its scope has been necessarily restricted by the fact that only 25 beds were available, encourage the hope of a much larger sphere of usefulness in the future arrangements for the treatment of the children. The site for the new hospital, comprising ten acres, is on the side of Heswall Hill. When the complete scheme is carried into effect the buildings will stand in the form of the letter H, the ward wings being connected by the central block. At present only the central block, in which temporary ward accommodation can be found for 100 beds until the ward blocks themselves are erected, is being undertaken. This part of the scheme will cost £25,000 in addition to £15,000 for furnishing, general equipment, and liabilities in connexion with the building. The ceremony was witnessed by a large and important gathering presided over by Colonel Montgomery, the chairman of the hospital. Messages of apology for absence had been received from the Bishop of Liverpool, the Bishop of Chester, Sir Edward Russell, and others.

Opening of the Fazakerley City Hospital.

Another of the big enterprises of the Liverpool city council —the City Hospital, Fazakerley—was formally opened on April 25th by Mr. John Utting, the chairman of the port sanitary and hospitals committee, in the presence of a large gathering of the public representatives and officials of the city. The proceedings were presided over by the Lord Mayor. The hospital, which consists of a central administrative block, nurses' home, and a number of one-storey wards and isolation pavilions, stands on an area of 35 acres, the surrounding country being fine and open to the exhilarating north-west breezes from the direction of the sea. It was planned by Mr. Shelmerdine, the city architect and surveyor, with the valuable assistance of Dr. E. W. Hope, the medical officer of health; the buildings have been erected by Morrison and Sons, of Wavertree, at a cost of £121,475, to which must be added a large sum for equipment and the cost (£39,915) of the 118 acres of land purchased in 1898. The south section of the institution, which was completed in 1901, provides 160 beds for the treatment of small-pox, and the additional buildings opened on April 25th give accommodation for 350 beds for dealing with other infectious diseases. Sir James Crichton-Browne, in seconding a vote of thanks to the Lord Mayor for presiding, said that they had in this country a duplex system of sanitation, both unified and both parts of which were of extreme importance. In Liverpool they had the port sanitary authority presided over by Mr. John Utting, which might be called the blue-water school of public health officials, who were engaged in defending and safeguarding our shores against foreign invasion. They had also the land forces, the urban and rural sanitary authorities, who were engaged in dealing with those foreign foes in the form of diseases that had obtained a foothold in our land and such rebellious diseases as had sprung up amongst us. He thought we might have as complete confidence in our blue-water sanitary officials as we had in our navy. It was certain that in this country we should have from time to time raids of foreign diseases, but, thanks to the precautions taken at that and similar hospitals, we should never again have those terrible invasions which we have had to deplore in the past. Mr. John Utting was presented with a key of solid gold bearing the Liverpool coat of arms in true heraldic colours, also the staff of Æsculapius, together with a view of the hospital, all being beautifully enamelled, the wards of the key forming the recipient's initials, the reverse side being suitably inscribed.

St. Helens Hospital: Annual Report.

The most interesting feature in connexion with the statement made by the treasurer at the recent meeting of the subscribers to the hospital was the fact of the support given to the charity by the workmen of the district. Out of 707 patients admitted during the year 563 were penny-a-week subscribers. The total subscriptions from this source during the year were £2478 odd, the total income being £3804 10*s.* 1*d.* and the expenditure £3795 12*s.* 8*d.*

May 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

General Council of the University of Edinburgh.

THE statutory half-yearly meeting of this body was held on Wednesday, May 2nd. Various matters came up for consideration, the most important being the proposed alterations in the medical curriculum and a proposal that steps should be taken to have autonomy granted to the several Scottish Universities. (The proposals are given in detail at p. 1266.)

Post-Graduate Course in Edinburgh.

The Edinburgh Medical School has once more aroused itself to the fact that in an important centre such as Edinburgh it is desirable to have opportunities for post-graduate instruction. A laudable beginning with such a scheme was made a number of years ago but the founders, already weighted with the burden of under-graduate teaching, gradually withdrew from it. The idea has again taken practical form and it is proposed to begin a short course in September next.

The Glasgow University Club.

The annual summer dinner of the Glasgow University Club, London, has been fixed for Friday, May 25th. It will be held at the Trocadéro and the chair will be occupied by Sir Thomas McCall Anderson, head of the medical faculty of the University and a member of the General Medical Council, which will be holding its sittings in London during the same week.

Infantile Mortality in Barrhead.

For some time the high death-rate among infants in Barrhead has been engaging the attention of the town council. The method was tried of distributing circulars containing information regarding the care of infants, but the results accomplished in this way have not been satisfactory and more effective measures are being considered. Dr. R. Corbett, the medical officer of health of the burgh, in the course of an interesting report on the subject states that the increase of infantile deaths among the poorer classes is due in great part to carelessness and ignorance in feeding and protecting the children. As he finds it impossible to come into constant touch with these parents, he recommends, in the interests of public health, that a qualified nurse should be appointed to assist in the way both of advice and of practical household demonstrations in the proper methods of feeding, cleaning, and clothing young children. As it is imperative that such a nurse should be able to offer her services as soon as possible after a baby is born it is advised that a small sum, say 1*s.*, should be given to the first person who reports a birth to the nurse. As a number of births in Barrhead occur without the attendance of a medical practitioner it is further suggested that the nurse should be qualified to attend ordinary midwifery cases and that she attend women during their confinement if they desire her services. The town council has agreed to adopt this proposal of the medical officer and the experiment is to be tried for one year.

Sanitary Condition of Lewis.

The deplorable sanitary condition of Lewis has again been brought before the public by the publication of the annual report of Dr. W. Bruce, medical officer of health of Ross and Cromarty. In referring to Lewis, he says that the state of matters can only be considered as desperate. Here we have to deal with a poverty-stricken people living in conditions 100 years or more behind modern civilised ideas of mere existence. The proprietor of the island, though willing, cannot build some thousands of clean and comfortable cottages from his own purse, already drained to the utmost by poor- and school-rates. It has been said that the local sanitary authority should do its duty and compel these poor people to conform to twentieth century notions as to the propriety of dividing the human and bovine elements in their household accommodation. Recently Dr. Bruce visited one of the villages with this point in view, only to find that the separation meant next to no sanitary improvement and that it was impossible to drain the village without moving almost every house away from the muddled hollow in which it lies, rebuilding it on the higher ground adjacent, and finally digging a deep and expensive ditch through the rock to carry off obnoxious liquid matters.

May 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Outbreak of Scarlet Fever in Kildare.

AN outbreak of scarlet fever which originated in the military barracks at Kildare has already caused one death. There are 20 cases in the barracks and 10 in the town which are very serious. Every precaution is being taken by the military authorities and by the local medical officer of health. All dealers' passes from Kildare to the Curragh Camp have been stopped. On April 30th the military medical inspector of the Dublin and Belfast districts with Major Hennessy, R.A.M.C., and Dr. L. F. Rowan visited the barracks in order to investigate the cause of the outbreak. The Naas union fever hospital, which is the nearest to Kildare, is 14 miles from the town, so that the difficulty of removing patients is considerable. In fact, Dr. Rowan has found it necessary to request the military authorities to set apart a ward in the Curragh Camp fever hospital for the use of civilian cases in the event of the epidemic spreading further.

Health of Belfast.

The papers are still discussing the high death-rate in Belfast from tuberculosis and other causes. The following table, embracing a period of three months, shows the unenviable position which Belfast holds at the present time in comparison with the rest of the kingdom as to its high death-rate:—

Week ending—	Average of the great towns.	Belfast rate.	Belfast excess
Feb. 3rd	15·5	20	4·5
" 10th	15·5	21	5·5
" 17th	17·2	26	8·8
" 24th	17·3	25	7·7
March 3rd .	17·4	24	6·6
" 10th .	16·7	22	5·3
" 17th	16·2	27	10·8
" 24th	15·8	22	6·2
" 31st	17·0	29	12·0
April 7th	17·0	24	7·0
" 14th.	17·1	24	6·9
" 21st	17·3	25	7·7
Average . .	16·6	24	7·4

Belfast and County Antrim Branch of the Royal Medical Benevolent Fund Society of Ireland.

At the annual meeting of the above society held in the Medical Institute, Belfast, on April 27th, Dr. J. Nelson, the President, being in the chair, it was reported that the amount received from all sources was £153 2*s.* 6*d.*, made up as follows: 127 Belfast members, 29 country members, and 14 friends and sympathisers not belonging to the medical profession. Deducting expenses the total amount was

£122 18s. 2d. For some reason there has been a falling off of £22 1s. 11d. The total sum paid in grants was £145, a sum in excess of the local contributions to the Fund. Only 127 out of 204 members of the medical profession in Belfast subscribe and only 29 medical men in the country contribute. Professor J. A. Lindsay was elected president for the ensuing year. An effort is to be made to interest the members of the profession in the society.

The Darnell Case.

At a joint meeting of the Ulster branch of the British Medical Association and of the Ulster Medical Society held recently it was decided to start a fund to assist Mr. C. K. Darnell in defraying his expenses at the recent trial.

May 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Paratuberculosis.

AT a meeting of the Academy of Medicine held on April 10th M. Poncet returned to a theory of which he has made himself the champion and which is as follows. He considers that the bacillus tuberculosis, whether of itself or by means of the toxins which it secretes, is capable of producing in the organism various lesions of an extremely diverse character, in the production of which the action of the bacillus has not been up to the present suspected. The field of action of tuberculosis, which is already only too wide, is thus found to be much increased but at the same time certain lesions the origin of which is difficult to account for can be explained satisfactorily on this hypothesis. M. Poncet, for instance, considers that there is a tuberculous rheumatism without any tuberculous bacilli being visible locally but that the local lesions are the result of an intoxication by the bacillary toxins. There are certain tumours of the breast and of the thyroid gland—namely, the adenomata—which surgeons have great difficulty in distinguishing from cancer. M. Poncet considers that these adenomata have all the character of inflamed reactive tumours. They possess no definite microbial forms nor very often any bacillus of any kind, but having studied the hereditary history of patients affected with adenomata, and by comparing their clinical forms, M. Poncet considers that they are of a tuberculous nature. M. Labbé asked M. Poncet for more definite proofs of his argument and remarked that tuberculous lesions which were free from bacilli could be inoculated into animals, such as the rice-grain bodies found in cases of synovitis. M. Poncet answered that these lesions were not tuberculous properly so called but inflammatory, although their structure indicated that the primary cause of the inflammation was tuberculous. M. Fournier said that M. Poncet's idea was plausible and all the more in that it presented an analogy to the idea which he (M. Fournier) had often put forward on the subject of syphilis. Thus, the syphilitic virus does not produce anything but syphilis, but under certain conditions it produces lesions of which the syphilitic character is by no means evident, lesions which resisted treatment by mercury and the iodides but which cannot be produced without the intervention in the beginning of syphilis. Such lesions, for instance, are tabes and general paralysis, and in these conditions we have the right to talk of parasyphilis. Similarly, in certain maladies of the skin, such as lupus erythematosus and the tuberculides, no bacillus of tuberculosis is found in the majority of cases but yet they are tuberculous in origin. There is no reason then why we should not admit the possibility of a paratuberculosis.

April 30th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Congress of Orthopædic Surgery.

THE German orthopædists who formerly were members of, and took part in, the Congresses of the German Surgical Society have since 1902 combined to form a separate association to which they have given the name of the German Society for Orthopædic Surgery. They had found that in comparison with the other branches of surgery orthopædic surgery did not receive the consideration to which they believed it to be entitled. Moreover, the number of papers read before the German Surgical Congress was so great that there was no opportunity for a discussion after many of them, and especially after those dealing with orthopædic surgery. The orthopædists therefore hold a special meeting of their own of only one day's duration on the day before the opening of the German Surgical Congress in order to allow members to take part in both Congresses. The Fifth Congress of the Society for Orthopædic Surgery was accordingly held in Berlin on April 3rd, Professor Lorenz (Vienna) being in the chair.—Professor Schulthess (Zürich) read a paper on a Peculiar Form of Scoliosis which occurred in young children having a tendency to rickets and was encouraged by the children lying in their cradles in unnatural positions. Mothers ought, therefore, he said, to pay great attention to the positions which children assumed in the cradle.—Dr. Finck (Charkov) read a paper on the Gradual Reduction of the Deformity produced by Pott's Disease. In contradistinction to the forcible reduction practised by Calot the principal feature of this method was that the patients must remain at perfect rest for several months or even a year wearing a plaster-of-Paris apparatus padded with cotton wool, by which continuous pressure is maintained on the deformed part. After several months they are allowed to walk by the aid of supports which reach as high as the occiput and the angle of the jaw. They begin by getting up for half an hour, a period which is by degrees extended to six hours, and in the intervals they are again placed in the plaster-of-Paris apparatus.—Dr. Spitzy (Graz) recommended the transplantation of nerves in cases of paralysis. He showed a boy, aged 12 years, who had suffered from paralysis of the radial nerve and had been successfully treated by uniting fibres of the median with the paralysed radial nerve.—Dr. Cramer (Cologne) described an operation for restoring the mobility of an ankylosed elbow.—Dr. Withek (Graz) read a paper on Dislocation of the Hip-joint. He said that in old cases of dislocation extension by weights, even as heavy as 50 kilogrammes, must be used.—Professor Lorenz said that reduction of these dislocations must not be made at too advanced an age because ankylosis might easily develop.—Dr. Heusner (Barmen) remarked that extension which was too forcible tended to produce loosening of the knee-joint.—Other papers read before the Congress dealt with trophoneurotic diseases of the joints occurring after poliomyelitis, habitual dislocation of the patella, the mechanical treatment of dislocation of the hip-joint, the treatment of club-foot, and the treatment of varicose veins.

Statistics of Suicide.

According to the statistics published by the Imperial Statistical Office, the number of suicides has slightly decreased, being 12,468 in 1904 as compared with 12,730 in 1903. The proportion of suicides per 100,000 of the population was 21·0 in 1904, 21·7 in 1903, 21·4 in 1902, and 20·8 in 1901. Arranged according to sex, in 1904 there were 9704 and in 1903 there were 10,017 suicides among males; while in 1904 there were 2764 and in 1903 there were 2713 suicides among females, so that the decrease occurred only among the males. With regard to the local distribution of suicides the report states that the lowest number was reached in the Prussian provinces of Posen, Hohenzollern, and Westphalia, being 9·9, 10·3, and 11·0 per 100,000 respectively. The highest numbers were registered in Saxe Coburg and Saxe Altenburg, being 41·8 and 41·5 per 100,000 respectively. In Hamburg 37·8 and in Berlin 31·0 suicides per 100,000 were registered.

April 30th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Sixth International Congress of Criminal Anthropology.

FROM Portugal to Piedmont, from Lisbon to Turin, is a trip delightful at all times, whether by sea or land, but particularly so when undertaken by the professional man who, satiated from the abundant and varied *menu* of the Fifteenth International Congress of Medicine, passes on to the piquant bill of fare provided by the Sixth International Congress of Criminal Anthropology. I have already indicated some of the attractions of this latter symposium and will only add on this, the morning of its inauguration, that both in its *personnel* and in its programme it promises to be yet more successful than the last and best of its predecessors. Besides M. Magnaud, the *bon juge*, there will intervene three ex-Ministers of State, M. Lejeune, representing the "newest of the sciences" in Belgium; Van Hamel, its able pioneer in Holland, especially in the "care and cure of minor delinquents"; and M. Vucetig, already known for good work as a criminal anthropologist in Servia. Interest, dramatic as well as scientific, cannot fail to attend the contributions to the agenda paper on "The Female Assassins in Russia," Mde. Tarnowski and Mde. Rublinovich being the authors; while M. Drill Dmitri, of the same nationality, will discourse on the Effects of Seclusion in the Island of Sakhalin on its Criminal Population. M. Hamon, conductor of *L'Humanité*, and M. Habanel, of judicial fame, will treat of the Mental Rehabilitation of Weaklings of Tender Years; and in the investigation of crime Dr. Ottolenghi and Signor Guasti (the highly efficient "Ispettore di Pubblica Sicurezza") will give their experiences of the anthropometric system, supplemented by a paper from Dr. Reuss of Geneva, entitled "L'Applicazione della Fotografia alla Ricerca dei Delinquenti." From the sections in which these and other cognate themes will be discussed by experts the auditor can find recreation or distraction in the "Esposizione" held as an adjunct to the Congress in the "Istituto di Medicina Legale al Valentino." Among the objects on view will be a beautifully arranged and clearly described assortment of the brains and the skulls of executed criminals, contributed by Professor Haberda of Vienna; an equally well-classified series of skeletons and masks of notorious Italian "giustiziati" sent by Professor Tenchini of Parma; and a collection of the favourite lethal weapons of the Neapolitan Camorra with their characteristic inscriptions, the contribution of Professor Frigerio. Most effective, however, from the "gruesome" standpoint is the famous Virgin of Nürnberg, a statue of a woman made of iron and hollow inside, which opens on its hinges, like a cabinet, to receive the victim, on whom it closes immediately, piercing with its inner apparatus of sharp spikes his eyes, his breast, and his abdomen till he dies in excruciating agony. Too often put in practice, this instrument of "justice" could never have been "deserved" but by the human fiend who devised it. As already stated,[1] the proceedings will open with a testimonial and address to Professor Cesare Lombroso, the initiator and indefatigable promoter of "criminal anthropology," whose career, honourable in itself, illustrates the qualities and "the defects" of the said qualities which go to make the "pioneer" Beginning life as a humble practitioner of medicine in which he had graduated with distinction young Lombroso's first academic post was that of lecturer on medico-psychology in the University of Pavia, in the wards of whose asylum he was impressed with the close connexion between lunacy and defective nutrition, most of the inmates having suffered or but partially recovered from that scourge of the Alta Italia, "pellagra." Tracing this disease to the badly grown maize, which was the staple food of the people, he gave himself no rest till, in spite of much opposition, not to say obloquy, he had wrung from the authorities, agricultural and other, a series of prophylactic measures which have since reduced the numbers of the "pellagrosi" and the intensity of their pathognomonic signs. Following up his researches into the interdependence of malnutrition and mental deficiency he received great encouragement from his fellow worker in the same direction, Paul Broca, and for several years concentrated his studies on the causation, or rather on the "conditions precedent," of epilepsy in all its stages and throughout all its ramifications. To these studies we owe his widely diffused, if not widely accepted, theories on the association of the "epileptoid cachexia" with abnormal developments, sometimes appearing in so-called "genius" and much oftener in eccentricity of character and in crime. Comparative craniology further supplied him with what he considered as confirmatory evidence and the whole culminated in his "Uomo Delinquente," the work of 15 years of observation and research. Then followed his "Uomo di Genio," translated into six European languages, the conclusions of which found many adherents not only in Italy but in Russia and in North and South America, while accepted only provisionally in Germany and Austria when not absolutely rejected. The net result, however, of his teaching, or, I should say, his propaganda, has not been without its salutary side in his native Italy, where the conditions, physical and moral, which antagonise healthy and normal development, particularly among the poor, have prevailed long enough to produce a population in which crime multiplies itself out of all proportion to its manifestations in other continental countries. It is in recognition of the good he has done directly by individual work, indirectly by example and influence continued over 30 years, that the testimonial has been accorded him to-day—a testimonial to which all the leading anthropologists interested in the phenomena of crime have appended their signatures—at this, the Sixth International Congress of the science which he is known to have fostered as well as founded.

April 28th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Eyesight of School Children.

AT a recent meeting of directors of elementary schools Professor Schnabel, the chief ophthalmologist of the first clinic for ophthalmology, read a paper on Myopia in School Children. He said that myopia was very frequent amongst the rising generation. He had examined the eyes of more than 4000 children of both sexes at ages between six and 14 years and 1450 eyes of youths and girls at ages between 14 and 19 years. He was decidedly of opinion that school work was not responsible for myopia of comparatively high degree, such as five, ten, or 15 dioptres. As a rule, such excessive nearsightedness was congenital—mostly produced by staphyloma posticum or excessive curvature of the lens and its capsule. The percentage of myopia at the ages from six to 14 years was nearly constant, and in the more advanced schools the percentage was somewhat raised but only very little. The most deleterious factor of myopia amongst young people consisted partly in hereditary influences and partly in the performance of fine work, such as sewing, etching, and watchmaking. It very rarely, if ever, happened that either severe mental strain (such as that of preparation for examinations) or excessive reading in a good light was responsible for loss of elasticity of the lens capsule. Reading in an unsuitable light was apt to endanger the vision without causing myopia. Hypermetropia was also found amongst a fair percentage of children. This fact was especially important, as most of these children, unless examined by an ophthalmologist, were supposed to be suffering from myopia because they were in the habit of bringing their eyes very near the book which they were reading or the paper on which they were writing. They generally used only one eye because they had to visualise the letters without accommodation. Such children very often suffered from headache if their hypermetropia was not corrected by proper glasses and were likely to be far behind the average standard of knowledge of their class-fellows on account of their liability to myasthenia musculi recti interni. Great attention should therefore be paid to the eyes of children, both as regards school work and also as regards their home occupations.

The Relation of Nasal Disease to the Functions of the Female Genital Organs.

Several interesting experiments devised for the purpose of elucidating the relations existing between the nasal mucosa and the genital organs in females have been conducted at the clinic of Professor Chrobak for maternity cases. Dr. Fliess of Berlin, although not the first in point of time, has been the most prominent advocate of the theory that there is an intimate relation between these two systems of organs, and maintains that a kind of nasal dysmenorrhœa, or hyperæsthesia of the nasal mucosa, during pregnancy exists in some persons who are not necessarily neurotic. The correctness of his views has, however, been often called in question. Dr. Jerusalem and Dr. Falkner have been trying Dr. Fliess's method of cocainising the tubercula septi nasi in cases of painful menstruation and in prolonged painful labour with gratifying results. In many cases the spontaneous contractions of the uterus after the birth of the child were incapable of expelling the placenta until the nose, and especially the anterior ends of the lower turbinated bone or the tuberculum septi, had been touched with cotton dipped in a 10 per cent. solution of cocaine. The results of these investigations were described to the Clinical Society in a paper by Dr. Jerusalem and Dr. Falkner, who have also written on the subject in the *Wiener Klinische Wochenschrift.* No precautions were taken against suggestion, as the patients had to be informed why their noses were suddenly the object of so much attention. Some degree of toleration of cocaine was observed in a few cases when the initial doses of from three to four drops of a 10 per cent. solution were sufficient only once or twice, and then it became necessary to resort either to a larger dose or to a 20 per cent. solution.

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[1] THE LANCET, April 7th, 1906, p. 987.

The University of Vienna.

The new calendar of the University of Vienna, which contains the lectures and classes for the summer term, May, June, and July, 1906, has just appeared and shows little difference from that of last year except as regards some minor lectures on diagnosis and chemistry. The extent of the Medical Faculty of Vienna may be estimated from the fact that no less than 32 ordinary and 57 extraordinary professors will lecture to students and graduates during these three months. The total of lectures and classes exceeds 350, and in the work of teaching help is given by the numerous "docenten" and assistants of the various university institutions. The fees for the courses vary a good deal, being very low for the students (from 10*s.* 6*d.* to £1 1*s.*), whereas graduates have to pay from four to eight times that amount. In several classes—for instance, in gynæcology and bacteriology and experimental physiology—the number admitted is limited to six or ten, thus insuring sufficient material and adequate instruction to the students.

An Old Enactment for the Prevention of Dust.

Several medical men have been recently promoting a movement for the diminution of the dust nuisance, but efforts in this direction have been made for a much longer period than is generally recognised at the present time. A quaint document was not long ago brought to light when the librarian of the royal and imperial library found in a bundle of papers an order relative to the abatement of dust. The text of this order prohibits "riding or walking in large groups or driving at a great pace" in certain streets of the city of Vienna and in the ditches of the fortress, as it "produces annoyance to the peaceful citizens and is apt to disseminate pestilence, bad coughs, and fevers, and is generally unfavourable to health." No endeavours have, however, succeeded in exterminating some of the most annoying sources of the Vienna dust nuisance. The situation of the city in a valley between two ranges of chalk mountains, the prevalence of winds coming from the direction of these mountains, the antiquated system of street paving, and the unsatisfactory method of street cleansing all tend to give the beautiful city an unenviable reputation for dust and dust diseases. At one time tuberculous disease of the lungs was here called morbus Viennensis. At present a society for the prevention of dust has been formed with the same object as so many others of a like kind in bygone days. The only tangible result of its existence is the discontinuance of the miserable practice of dust collection in open vans and the substitution of closed dustbins, which are collected without any possibility of the contents being scattered to the winds.

April 30th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Case of "Sati" in the Punjab.

IT may be remembered that last year a young widow in the presence of a vast concourse of people publicly committed "sati" by consigning herself to the funeral pyre and perished amidst the flames. This occurred as recently last October in the Punjab and shows that the desire to resuscitate this horrible practice still lingers in the minds of the people. Some of her relatives were arrested, admitted the main facts, and were sentenced to severe punishment. Unfortunately, on appeal the sentences have been reduced. The ghastly performance had been advertised in the surrounding villages and the day was a festival day, so that the participation in the crime was premeditated. The magistrate described those who participated in the suicide as "the most wretched specimens of humanity it has ever been my ill fortune to see outside a hospital or asylum, of miserable physique and stunted intellect." The Punjab chief court in reducing their sentences from ten to two years' imprisonment has evidently considered them irresponsible degenerates.

Plague Riot in Seistan.

The outbreak of plague in Seistan has been attended with riot. It is curious to note how often disturbance occurs in the early part of an outbreak. At Nasirabad there were erected temporary shelters for the accommodation of the plague patients and there was also a plague hospital. These have been all wrecked. Objection seems to have been taken to the measures for the suppression of plague instituted by the local authorities. At first there was some anxiety for the safety of the Europeans at Seistan but order was partially restored and Persian troops were sent for.

The Plague Mortality in India.

The development of the annual plague recrudescence still goes on. For the week ending March 31st there were 13,996 cases with 11,823 deaths reported for the whole of India, but these figures do not include Bengal, the Punjab, and Rajputana. The report does not mention Bombay or Calcutta, in both of which cities plague is raging virulently. In Mandalay the outbreak is very severe, all business is suspended, and two-thirds of the population are reported as having fled away. Out of 3000 Chinese only 400 are said to be left. Since the outbreak began 1265 deaths have occurred—a very large mortality for the size of the city. In Rangoon the disease is still prevalent, 318 deaths being reported for March. In Bombay city the mortality is just now very high. Of 1860 deaths for the week ending March 31st 821 were due to plague, but even without these there were some 400 deaths above the average. In Calcutta the plague outbreak seems much less severe. The published figures show it to be less than half in severity to that of last year.

April 13th.

Obituary.

HENRY ALEXANDER GOGARTY, M.D. DUB., L.R.C.S. IREL.

Dr. H. A. Gogarty died at his residence in Ethelbert-road, Canterbury, on April 18th, in his seventy-second year. He had been in weak health for a considerable time, suffering chiefly from cardiac trouble, which caused his friends much anxiety last September and eventually carried him off. Dr. Gogarty received his medical education in Dublin, taking the diploma of L.R.C.S. Irel. in 1853. In 1867 he graduated as M.B. at the University of Dublin and proceeded to the degree of M.D. in 1878. He entered the medical department of the Army as assistant surgeon in 1855 and saw much service during the Indian mutiny, being present at the defeat of the Sealkote mutineers on the banks of the Ravee in July, 1857; he was also present from August 14th at the siege of Delhi and was awarded a medal with clasp. He was for many years attached to the 52nd Light Infantry (now merged in the Oxfordshire Light Infantry) and the Rifle Brigade; he was promoted to be surgeon in 1870 and retired from the Rifle Brigade with the rank of surgeon-major in 1877. He went to Canterbury about 25 years ago when he was appointed one of the honorary physicians to the Kent and Canterbury Hospital, a position which he filled with conspicuous ability until the beginning of 1905, when on his retirement from active work he was elected consulting physician to the hospital. Besides his hospital duties he was also for a long time lecturer on practical medicine at St. Augustine's Missionary Training College, Canterbury. In addition to being a skilful practitioner Dr. Gogarty was a kind-hearted man, honourable in all his dealings, and a faithful friend. He has left a widow, two sons, and two daughters. The funeral took place at St. Martin's, Canterbury, on April 21st.

ROYAL HOSPITAL FOR CHILDREN, BRISTOL.—The annual meeting of the "Ladies Auxiliary" in connexion with this institution was held on April 26th under the presidency of the Duchess of Beaufort. It was reported that during the year the sum of £522 had been raised for the funds of the hospital and that the "needlework guild" in connexion with the society had given 668 garments to the institution.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the Congregation on April 26th the following degrees were *conferred* :—

M.D.—J. F. Alexander, Trinity; E. S. Scott, Pembroke; and G. W. Greene, Downing.
D.Sc.—G. H. F. Nuttall, Christ's.
M.B.—H. M. Wilson, Trinity Hall; F. D. Crew, Emmanuel; and E. W. Sheaf, Downing.
B.C.—W. P. Morgan, Clare; and F. D. Crew, Emmanuel.

UNIVERSITY OF DURHAM.—At examinations for the degree of Bachelor in Medicine held in April the following candidates satisfied the examiners :—

FIRST EXAMINATION.

Elementary Anatomy and Biology, Chemistry, and Physics.—Second-class Honours: Jabez Ethelbert Dainty and Charles Marks, College of Medicine, Newcastle-upon-Tyne. *Pass List*: Frederick Ernest Chapman and Herbert Edward Fullerton, College of Medicine, Newcastle-upon-Tyne; William Reynolds, Guy's Hospital; and William Robert Elstob Unthank and Charles Leslie Wigan, College of Medicine, Newcastle-upon-Tyne.

Elementary Anatomy and Biology.—Everard Cecil Abraham, Isaac Bainbridge, John Akilade Caulcrick, Robert Vickers Clayton, Helen Grace Clark, John Hare, John Parkinson Higham, Howard Tomlin Hunter, Laurence Heber Warneford Iredale, and George Eric Warner Lacey, College of Medicine, Newcastle-upon-Tyne; Herbert Vere Leigh, University College, Cardiff, Samuel Littlewood, George Cuthbert Mura M'Gonigle, Charles O'Hagan, and Eric Hemingway Shaw, College of Medicine, Newcastle-upon-Tyne; Henri René Guillaume Vander Beken, London Hospital and College of Medicine, Newcastle-upon-Tyne; and Stanley Worthington and James Carruthers Young, College of Medicine, Newcastle-upon-Tyne.

Chemistry and Physics.—Eliot Watson Blake, Guy's Hospital; Alexander Hay Bower, Francis Frederick Trevor Hare, and John Howard Owen, College of Medicine, Newcastle-upon-Tyne; Elliot Jessie Ramsbotham, London School of Medicine for Women; Charles Elias Reindorf, College of Medicine, Newcastle-upon-Tyne; and Madeline Rosa Shearburn and Olivia Nyna Walker, London School of Medicine for Women.

THIRD EXAMINATION.

Pathology, Medical Jurisprudence, and Public Health.—Second-class Honours: Gertrude Ethel O'Brien and Stanley Dunn Metcalfe, College of Medicine, Newcastle-upon-Tyne. *Pass List*: Charles Martin Brown, Gilbert Iliffe Cumberlege, and Ronald Martyn Davies, College of Medicine, Newcastle-upon Tyne; William Harold Edgar, St. Mary's Hospital; Helen Mary Gurney and Hubert Shield, College of Medicine, Newcastle-upon-Tyne; and John Franklin Young, Guy's Hospital and College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF EDINBURGH.—The following is an official list of those who have completed the first, second, and third professional examinations respectively :—

First Professional Examination.—E. M. Allan, Edward Anderson, F. G. Bell, R. A. Bell, Eveline R. Benjamin, J. G. Boel, C. J. G. Bourhill, A. M Britton, G S. Brown, H. H. Brown, J. F. Brown (with distinction), Peter de Bruyn, B. C. Burke, G. D. Cairns, L. D. Callender, A. F. Calwell, W. W. Carlow, M.A., G. J. Carr, B.A., J. A. H Carter, R. B. Chamberlain, J. P. Charnock, Percy Chisholm, F. O. Clarke, W. G Coltart, E. S. Craig, T. D Crawford, Josias Daneel, William Darlington, James Davie, I. D. Dickson, John Drummond, Isabella G. Emslie, James Erlank, W. J. Feltham, Annie G. Fergus, E. L. Ferguson, J. B Ferguson, F. P. Fouche, C. M. Ganapathy, F. P. Gibson, T. J. Gilmore, J. G. Gow, Colin Grant, R W. Greatorex, Annie C. Greenep, W. P. Grieve, E. B. Gunson, H J. Guthrie, T. E. Guthrie, R H. Hamilton, D. S. Harvey (with distinction), J. B. Haycraft, Alexander Hood, John Hunter, A. P. W Hutton, A. B. Jamieson, A. M Jones, G. J Joubert, Agnes E Keen, T. D. Kennedy, J. C J. Khambatta, S. G. Kriegler, E. O. Lang, D. T. M. Large, Leonard Leslie, A. Sinclair Loutit, J. F. H. Lutze, D. M Lyon (with distinction), K. B. MacGlashan, J. M. M'Keand, A. H. G. Mackintosh, D. J. M'Laren, Elizabeth Macleod, Mary Macmillan, R. C. Malhotra, D. B. Maunsell, G. M. Miller, S. P. Moore, M. M. Morrison, William Morrison, Rhoda M. Murdoch, O. A. J. N Muriset, Kishanlal Nehru, R. M Nicholson, F. H. Noronha, W. H. Pallett, Dora E. Paterson, P. N. Pedersen, A. Z. Phillips, J. A. Pienaar, B.A., C. K. Pole, A. H. Porter, W. D. Reid, D T Richardson, W. S Robertson, Lizzie Rose, William Russell, C. M. Schaffter, J. W. Senter, Daisy L. Shawyer, B.A., Alexander Simpson, F. M Sinclair, D. R. Bedell Sivright, B.A., T. W. Smart, Gertrude M. Smith, T C. Smith, R. O. Spencer, G H Stevenson, John Stevenson (Rosneath street), F. M. Stewart, J. D. G. Stewart, Malcolm Stewart, J. R. Stott, George Tate, L. W. Owen Taylor, R C. Tennent, A. B. Todd, J. J. Tough, C. E Tudehope, Jane A. Walke (Old Regns.), R. C. Wallace, A. M. Warwick, G. A. Wyon, and R. B. M. Yates.

Second Professional Examination.—G. J. Adams, R. C. Alexander (with distinction), H M. Anderson, William Bainbridge, Margaret W. Bartholomew, Lydia D. la Trobe Bateman (with distinction), G L. Batra, A. R. Bearn, James Black, Henry Blyth, A. M. Bose, William Boyd, John Brander, L. A. P. Burt, Eileen Cansfield, J. A. R. Cargill, J. T. Carson, Peter Chalmers, D. G. Cooper, B A., H 6. Cormack, A. C. Court, J. C. Craig, M.A., Emilie C. Creaser, John Crocket, J. M. Dalrymple, Purser Davies, J. M. Denchars, P. S Dias, A. L. Dykes, W. G Evans, John Findlay, Thomas Gardner, A. L. Girdwood, R. L. Girdwood, J. A. Gordon, Peter A. G. M. Grant, J. C. B. Grant, J. K. Hamilton, M.A., James O. Hamilton, Robert Hannah, F. W. Hay, John Hewat, S. W. Hogg, J D. Ingram, K. R. K. Iyengar, F. E. Jardine, J. J. Jervis, W. P. S. Johnson, M. J. Johnston, J. V. Karve, H. W. Kerrigan, Catherine Kirk, M.A., E. W. Kirk, R. A. Krause, F. R. Laing, C. L. Laurent, R. D. Laurie, H. R. Lawrence, M. A. Lindsay, A. S. Macbeth, John Macdiarmid, Ranald MacDonald, R. F. D. Macgregor, W. J. M'Keand, Kenneth Mackenzie (with distinction), A. C. M'Killop, D. R. O. Maclagan, I. R. MacLeod, Ada J. Macmillan, W. M. Macnab, David Macnair, E. E. D. Maconochie, S. E. Malherbe, A. C. Mallace, M.A., John Marshall, R. C. J. Meyer, A. F. Miller, J. A. Mitchell, Flora Morrison, I. A. van Niekirk, E. F. W. Nixey, A. C. Norman, P. G. Palmer, A. B. Pearson, J. H. H. Pearson, A. A. W. Petrie, B. B. Phillips, Laura W. Pugh, J. J van Rensburg, E. W. Richards, W. G. Riley, A. G. Ritchie, Agatha M. Robinson, D. H. Russell, John Scott (with distinction), J. T. Simson, E. W. Smerdon, W. B. Sommers, J. E. Spence, William Stobie, Adam Tait, A. L. Taylor, G. P. Taylor, J. Gordon Thomson, M.A., J. J. Thomson (with distinction), N. G. Thornley, R. W. Lang Todd, Mary M. M. Turpie, Raymond Verel, F. H. de Villiers, A. A. Walbrugh, E. A. Walker, W. O. Walker, H. S. Wallace, L. E. B. Ward, F. K. te Water, W. H. te Water, F. W. Waterworth, Alexander P. Watson, M.A., Hugh B. Watson, M.A., H. L. Watson Wemyss, Adam White, J. L. Masterman Wood, R. L. C. Wuppermann, A. G. Yates, M.A., and W. A. Young.

Third Professional Examination.—J. B. Alexander, J. L. Annan, J. C. Ashton, Ernest Banks, A. C. Barker, C. B. Baxter, A. E. Bennee (with distinction), J. W. Bingham, J. A. Brand, Alexander Bremner, Thomas Buchan, Thomas Burrell, P. D. Cameron, R. J. Chapman, W. G. Cobb, W. D. Coghill, C. E. A. Coldicutt, C. H. Corbett, H. C. D. Cross, Mackenzie Douglas, J. C. Drysdale, G. L. Duncan, A. D. Edington, B.Sc., Robert Edwards, P. A. Erevrard, J. Letitia D. Fairfield, W. P. Ferguson, M.A., B.Sc., Mary S. Finlayson, W. S. Forbes, John Fraser, J. B. Gibson, M.A., R. M. Glover, J. M. Grant, D. G. Gray, A. R. Gunn, D. J. Guthrie, George Henderson, W. S. Heron, A. Fergus Hewat, Matthew Heyns, James R. Hill, J. K. A. Hofmeyr, St G. M. L. Homan, J. H. Horne, Lloyd Hughes, T. J. Hughes, Alexander Hunter, H. B. Hunter, M.A., Spencer Jackson, J. A. Jamieson, R. H. Jamieson (with distinction), Blanche M. L. Johnston, T. Arnold Johnston, W. D. Stoney Johnston, Daniel Johnstone, M.A., G. G. Jolly (with distinction), S. W. Joubert, J. G. de Kock, G. F. V. Leary, J. H. Lechler, David Lees, M.A. (with distinction), Cecil R. Lethem, G. L. Little, K. F. Lloyd, C. W L. Luethgen, G J. Luyt, Thomas Lyon, R. D. M'Allister, L. G. M'Cune, W. S. M'Cune, Angus Macdonald, James F. Mackay, John L. Mackay (with distinction) A. T. Mackenzie, M.A., R. E M'Laren, D. J. M'Rae, Paula Maier, J. A. Manifold, A. H. M. Maxwell, F. W. Michael, G. G. Middleton, Margaret M. Miller (with distinction), A. P. Mitchell, J. A. Morris, John Morrison, James Muckart, Ara G. Murchison, William Murdie, M.A., Meher A. D. Naoroji, Joseph Newall, J. J. H. Nelson, A. T. Paterson, O. F. Pattie (with distinction), J. S. Peebles, G. R. Pillai, W. J. Porteus (with distinction), O. E. Powell, N. H. Prior, D. H. Rai, B.A., W. R. Ridley, Adam N. Robertson, Charles Robertson, David Robertson, W. A. Scobie, Francis L. Scott, W. J. Simpson, J. T. Simson, E. Drybrough Smith, F. F. S Smith, R. A. Spence, Dorothy W. Stevenson, L. H. F. Thatcher, O. A. Thelander, C. P. Theron, David Thomson, William Thomson, W. Wilson Thomson, V. F. Usher, A. M Vlok, Helen M. Wakefield, Martha B. Webb, J. C. B. Williams, and J. L. Wilson.

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April meetings of the examiners the following candidates passed the respective examinations :—

First Examination (Five Years' Course).—Samuel Ralph Waugh, Toddington, Beds; Hofmeyr Schimper, South Africa; David Lindsay Hutton, Glasgow; Joseph Louis Pinto, India; Gideon Joubert du Preez, Cape Colony; and Willoughby Edward Pellew Briggs, Rochdale.

Second Examination (Five Years' Course).—John Cornock Hawkes, Ireland; Harold Parker Bruce Tait, Jamaica; Franklin Joseph de Souza, Goa, India; Henry William Turner, Glasgow; George William Mason, Pontypool, Mon.; David Welsh, Lanarkshire; Maurice Edward Kayton, Bagdad; Samuel Abeyesundere, Ceylon; Thomas Nicholson Wilthew, Hexham; George Fred. Walker, Bootle; Ferdinand Byrne, Liverpool; William Rich Mackenzie, Belfast; and Robert M'Connell Blair, Glasgow.

Second Examination (Four Years' Course).—William Clegg Newton, Manchester, and Patrick John Alexander Curtin, India.

Third Examination.—James Fenbair Jefferies, Cork; Matthew Hamilton Fleming, Avondale; Thomas Bertram Eames, Kearsley; George Coats, Paisley; Walter Ernest Barrett, Leeds (with distinction); Graham Smith, Ashbourne, Derby; John Moncrieff Muir, Kilmarnock; Evan Alan Sevill Shaw, Callao, Peru; Alex. O'Flaherty, Ireland; Phiroza Behramji Malabari, India; Ellis Thomas Evans, Wales; Fred. Garnet Allan, Whaley Bridge, Cheshire; James Sullivan, Co. Cork; and Thirukama Sundara Reddy, Madras.

Final Examination and admitted Licentiates of the three Coöperating Authorities.—Edward Arthur Smith, Southport; James Logan, Maryhill; Charles Conway Fitzgerald, Belfast; Daniel Thomas Henry Croly, Dublin; John Hamilton Fullarton, M.A., D.Sc., Brodick; Andrew Ferd Garrard, Langside, Glasgow; Norman Bennington Watch, Partick; Alexander Brown, Galston; Francis William Cooper, Enniskillen; and Hormusji Jamshadji Chenoy, Edinburgh.

HONOUR TO AN ARBROATH MEDICAL MAN.—Dr. T. F. Dewar of Arbroath who was recently appointed medical officer of health of the county of Forfar, was honoured by his fellow townsmen on the evening of April 26th, when a company of over 100 representative citizens entertained him to a complimentary dinner in the White Hart Hotel.

ROYAL INSTITUTION.—The annual meeting of the members of the Royal Institution was held on May 1st, the Duke of Northumberland, K.G., being in the chair. The annual report of the committee of visitors for the year 1905, testifying to the continued prosperity and efficient management of the institution, was read and adopted, and the report on the Davy Faraday Research Laboratory of the Royal Institution, which accompanied it, was also read. 45 new members were elected in 1905. 63 lectures and 19 evening discourses were delivered during the year. The books and pamphlets presented amounted to about 254 volumes, making, with 697 volumes (including periodicals bound) purchased by the managers, a total of 951 volumes added to the library in the year. Thanks were voted to the president, the treasurer, and the honorary secretary, to the committee of managers and visitors, and to the professors, for their valuable services to the institution during the past year. The following gentlemen were unanimously elected as officers for the ensuing year:—President: the Duke of Northumberland. Treasurer: Sir James Crichton-Browne. Secretary: Sir William Crookes. Managers: Sir William de W. Abney, the Right Hon. Lord Alverstone, the Right Hon. Earl Cathcart, Dr. A. H. Church, Dr. F. Elgar, Dr. D. W. C. Hood, Mr. M. Horner, Sir William Huggins, the Right Hon. Lord Kelvin, Mr. H. F. Makins, Dr. Ludwig Mond, Sir R. Douglas Powell, Bart., the Right Hon. Lord Sanderson, Mr. Alexander Siemens, and the Right Hon. Sir James Stirling. Visitors: Dr. J. Mitchell Bruce, Mr. Dugald Clerk, Sir John George Craggs, Mr. H. Cunynghame, Mr. G. F. Deacon, Mr. E. Dent, Rev. J. H. Ellis, Mr. R. K. Gray, Mr. C. E. Groves, Mr. F. G. Henriques, Mr. A. C. Ionides, Mr. C. E. Melchers, Mr. E. R Merton, Mr. H. Swithinbank, and Mr. G. P. Willoughby.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held on April 26th, at 6, Suffolk-street, Pall Mall, Dr. F. H. Champneys being in the chair. A letter was read from a certified midwife saying that since the Midwives Act came into force it had made, so far, very little difference in the practice of midwives. It was also stated in the letter that in the locality where the writer practised the untrained women still practised and that with one exception the medical men did not approve of practising midwives. They informed prospective mothers that if the certified midwives summoned medical men in difficult cases the medical men would double their fees. It was further pointed out in the letter that the poor folk on 12*s.* a week were frightened that the certified midwife would send for a medical man and so let them in for a bill for 2 guineas. Dr. J. Ward Cousins said that the important question of payment to medical men called in by midwives in difficult cases was raised by the letter and the matter involved the satisfactory carrying out of the Midwives Act. If the fee for the medical man called in by the midwife was paid by the patient the difficulty was solved because no one would object to the medical man being paid in that manner. Cases, however, had occurred in which certified midwives had been compelled to pay the fee of the medical man summoned before he would assist the midwife. Dr. Ward Cousins did not think that the medical profession expected a medical man called in to an emergency case of difficulty to be paid by the midwife who called him in. The subject was one that had to be considered by the Central Midwives Board and it had to be remembered that the difficulty in regard to payment to medical men in these cases was felt most acutely in country districts where practitioners had to travel sometimes many miles at night without receiving any fee. In Cardiff and Liverpool the local supervising authorities had made arrangements for the payment of medical fees in these cases. The question was a critical one because medical men were required in every sense of the word to give assistance in these cases, and the Central Midwives Board ought to insist that some provision should be made by the local supervising authorities for that purpose. Miss J. Wilson asked under what powers Liverpool and Cardiff arranged for the payment of medical men when called in. The Secretary explained that the accounts of county councils were subjected to the Local Government Board auditors and such payments would be surcharged, but the boroughs were not in that position, for they elected their own auditors whose reports need not be regarded by the boroughs. If rich and large boroughs chose to break the law it was their own matter. Mr. E. Parker Young moved that the matter should be referred to the Standing Committee to consider and report what amendment of the Act was desirable.—Dr. Ward Cousins seconded the motion which was carried.

APOTHECARIES' HALL OF IRELAND.—Mr. D. J. Boyle having completed his final examination has been granted the diploma to practise in medicine, surgery, midwifery, and pharmacy.

Mr. Charles Arthur Wigan, M.D. Durh., M.R.C.S. Eng., L.S.A., has been elected chairman of the Portishead (Somerset) district council.

LITERARY INTELLIGENCE.—The annual subscription to the *Paris Medical Journal*, the appearance of which we notice elsewhere, is 12*s.* Communications should be addressed to the editors, Dr. Gros, 28, Rue de Ponthieu, or Dr. Warden, 9, Rue de Chalgrin, Paris.

TIVERTON INFIRMARY.—Considerable improvements are being carried out at the Tiverton (Devon) Infirmary. Mr. J. Coles has presented a house adjoining the institution which is to be utilised as a nursing home. He has also given £500 for improvements and this will be expended upon furnishing the nursing institute, enlarging the children's ward, and making other improvements in the infirmary. An additional £300 will be required and it is hoped to raise this sum by means of a bazaar.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The south-eastern division of this association met at the Herts County Asylum, Hill End, near St. Albans, on April 25th. There was a large attendance of members. After the wards had been inspected Dr. A. N. Boycott hospitably entertained the company to lunch. At the meeting a resolution was passed recommending the association to take the opinion of the members as to the new psychological tables. Dr. W. H. B. Stoddart read a paper entitled "Instincts: a Psycho-Physical Study in Evolution and Dissolution," and compared the mental evolution of the child with the inverse process occurring in the dissolution of dementia. Dr. D. G. Thomson introduced a discussion on the question of the preparation of nurses for the examination for the medico-psychological certificate and on the conduct of the examination. Votes of thanks to Dr. Percy Smith, the chairman, and to Dr. Boycott terminated the proceedings.

ROYAL EYE HOSPITAL, LONDON.—In connexion with the courses of instruction in ophthalmology which are now being given at this hospital Sir William J. Collins gave the inaugural lecture on April 30th before an appreciative audience of about 30 students. Professor M. M. McHardy, the senior surgeon of the hospital, occupied the chair. The lecturer took for his subject the Study of Ophthalmology. In the course of his lecture Sir William Collins said that the study and treatment of diseases of the eye were among the earliest to lend themselves to the handling of the specialist. The introduction of the ophthalmoscope served to accentuate the differentiation of ophthalmology from the common stock of medical knowledge. The lecturer emphasised the fact that ophthalmic surgeons should keep the base of their speciality broad, lest they lose something of philosophic insight, of that power of seeing the *one in the many*, that breadth of view which the history of discovery tells us has ever been the source and inspiration of new truth. It was pointed out that for a fruitful and rational study of ophthalmology it was imperative that we should always retain, on the one hand, close touch with scientific method as recognised in other departments of knowledge and investigation and, on the other hand, a broad nexus between ophthalmology and general surgery and medicine. The lecturer then illustrated by examples the relationship of the diseases of the maxilla and of the nasal fossæ to those which might follow in the orbit, and he also emphasised the close relationship between the various forms of ophthalmoplegia and such diseases as locomotor ataxia and general paralysis of the insane. At the close of the lecture Professor McHardy proposed a vote of thanks to the lecturer, which was seconded by Mr. L. Vernon Cargill, who also briefly explained to the audience that it had been decided to give systematic instruction in eye diseases at the Royal Eye Hospital and that this would be carried out by Mr. G. T. Brooksbank James, Mr. Arthur W. Ormond, and Dr. H. Willoughby Lyle, while the senior surgeons would from time to time deliver special lectures and give clinical demonstrations. Mr. Cargill stated that the clinical material was abundant, which was shown by the fact that last year more than 23,000 new cases were treated in the out-patient department. Full particulars of these courses may be obtained from the honorary secretary, Mr. Ormond.

STRATTON COTTAGE HOSPITAL.—At the annual meeting of the supporters of the cottage hospital at Stratton in Cornwall the committee in its report stated that it wished to record its deep sense of gratitude to Mr. J. Montague Braund, who had resigned the post of honorary medical officer to the institution after 38 years' service. The committee further said that Mr. Braund had not only given much time to the work of the hospital but had also shown a constant interest in its welfare.

JUBILEE OF THE LONDON BIBLE WOMEN AND NURSES' MISSION.—The Marquis of Northampton, president of this mission, has issued to the press an earnest appeal on behalf of the Jubilee Fund. The mission was founded in 1857 and in 1868 district nursing work was added. There is also in connexion with the mission a convalescent home which annually receives 300 patients. A sum of at least £14,000 a year is required to carry on the beneficent work of the mission. Subscriptions should be sent to the honorary secretary, 2, Adelphi-terrace, Strand, W.C., or to Lord Kinnaird, the treasurer, at the bank of Messrs. Barclay and Co., 1, Pall Mall East.

LEAMINGTON SPA.—It is not impossible that in time we may see our British watering places sought after by foreigners as much as foreign watering places are by the inhabitants of these islands. Although the waters, the methods of treatment, and the social attractions may be as great at home as abroad, yet many persons will prefer to go abroad on account of the change of scene, of manners, and of food which they obtain. But British watering places are certainly waking up and in proof of this we have just received some publications relating to Leamington Spa. The enterprising town council, to whom the baths belong, has, with the assistance of the medical practitioners of the town, drawn up a book of order forms for the baths whereby any practitioners may give exact directions for the kind of bath he wishes his patient to have, besides the other methods of treatment which are given. Such are massage and the application in its various forms of electricity. These latter have been quite recently introduced. Besides its purely medical side Leamington possesses various social attractions and is one of the great hunting centres of England. The town council, we think, deserves that success in making Leamington a sought for health resort which it is evidently doing its best to attain.

ROYAL PORTSMOUTH HOSPITAL.—On April 25th, in the presence of a large assemblage, the Mayor of Portsmouth, Sir George Couzens, laid the memorial stone of a new operating theatre and corridor of the Royal Portsmouth Hospital. Mr Bramsdon, M.P., chairman of the governors, presided and spoke of the splendid work which had been done during the last 50 years in the old theatre, but the rapid strides in surgical science had made it obsolete and necessitated the erection of a well-equipped operating theatre thoroughly up to date. The contract cost of this was £2075 He stated that Mr. H. Rundle had taken advantage of the fact that building operations were in progress and had generously given a museum and library, which would be a valuable addition to the usefulness of the hospital. The new operating block, together with the corridor connecting the two existing ward blocks, which were completed in 1899, is the second portion of the scheme for the entire reconstruction of the hospital and contains, besides the operating room, a room for the administration of anæsthetics, a surgeon's room, and a room for sterilising dressings, instruments, &c. The whole block is constructed of fireproof materials and all the walls and ceilings will be lined with opalite (glass), a light green five feet high and white above, and all angles will be well rounded. The floors will be laid in Rust's vitreous glass mosaic paving, also with rounded angles. The artificial lighting will be electric and special arrangements will be made for the supply of electric current for motors, lamps, and cauteries. The warming and ventilating will be by means of hot-water coils. Behind each of these coils will be an opening containing an electric fan which will pump air into the room, the air having to pass through a screen formed of muslin for the purpose of cleaning it. These screens are arranged so that the muslin can be removed and a new piece fixed in a few minutes. In the ceiling at the back of each room is an extract shaft leading to a box on the roof, in which is another fan drawing the air outwards; thus a continual gentle current of air will be passing through these rooms when they are in use. It will be possible to change the air in these rooms five times in every hour. The floors of all rooms are so arranged that all the walls can be washed down with a hose pipe and the water taken away in the drain. The new buildings, which will be completed by Michaelmas next, have been designed by Messrs. Young and Hall.

SANITATION AND PUBLIC HEALTH IN FRENCH WEST AFRICA.—Captain Cromie, British Consul General at Dakar, in his annual report to the Foreign Office just received, mentions that in April, 1904, an ordinance was published laying down regulations for the preservation of public health with the special object of fighting malaria by the destruction of mosquitoes, of preventing epidemic maladies, and of enforcing vaccination. At the same time municipal sanitary services and sanitary brigades were created. These bodies began their work in Senegal on Jan. 1st, 1905, and were successfully formed in the other colonies. It is difficult as yet to give an account of the results obtained by this measure but in the case of Dakar they seem to have been favourable. In spite of the numerous public works, which have made of Dakar a vast workshop, which have drawn a large outside population, both European and native, and have opened up the ground in all directions—without being stopped during the rainy season, when the public health is at its worst—the gross number of admissions to hospital from Jan. 1st to Oct. 31st, 1905, diminished by 210. Malarial patients were reduced from 407 in 1904 to 242 in 1905 and private practitioners give similar results. The general mortality declined from 12 5 to 10 1 per cent. One case of yellow fever occurred in 1905 but thanks to the very vigorous measures immediately taken and also to the improved sanitary conditions, this case, instead of as in former years leading to an epidemic, remained quite isolated. Nor has the public health of the native population been neglected In addition to the medical corps of the colonial army, a number of civil surgeons have been appointed with the special object of looking after the health of the natives in the interior districts. In addition a corps of native assistant doctors is to be formed. Each of the civil surgeons will have one or more native pupils whom he will instruct in general practice. Those who show sufficient promise will subsequently undergo instruction in the chief hospital of the colony, after which they will be stationed in districts where their services are required. Special attention will be directed to reducing the percentage of infant mortality, which is very high, and also to the encouragement of vaccination. For this latter purpose a vaccine station is to be established in each colony. Altogether a sum of £48 280 is devoted to sanitary services in the general budget for 1906, apart from the credit for those services in the various local budgets.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

A Shops Bill.

THE Bill which Sir CHARLES DILKE has introduced in the House of Commons to amend the law relating to shops is drawn on the same lines as the Bill introduced in the session of 1904. The first three clauses have been modified in consequence of the passing of the Shop Hours Act, 1904. It is proposed by the Bill to amend the Shop Hours Act by making it compulsory on local authorities to make closing orders for their areas, while empowering them to refer to the ratepayers the questions whether any order shall come into operation at all and whether any alteration shall be made in the proposed order. The Bill determines the latest closing hours for each day which may be fixed by the local authority, leaving the local authority free to distribute the particular closing hours over the different days of the week. In order to insure uniformity as far as is convenient, it is proposed to give control to authorities administering wide areas—viz., the County Council in London, and elsewhere to the county or borough council.

The Bill repeats the miscellaneous proposals of the Bill of 1904 with regard to the Sunday closing of shops, the prohibition of the employment of children under 14 years of age, the hours of employment in shops, and their sanitary condition, ventilation, and conveniences. It is so designed as to give to persons employed in shops some of the protection which the existing law gives to persons employed in factories and workshops.

Cigarette Smoking by Juveniles.

An influential Scotch deputation waited upon the Lord Advocate on April 27th to urge upon him the propriety of supporting Dr. Macnamara's Bill, which makes it an offence for a person to sell tobacco to boys and girls under 16 years of age. The representative of the Glasgow School Board expressed the opinion that the cigarette habit among children would not be removed unless the use of tobacco by children were made an offence against the children themselves. In his reply the Lord Advocate acknowledged that Parliament and the public had been apprised by the reports of the Royal Commission on Physical Training and the Departmental Committee on Physical Deterioration of the seriousness of the matter from the point of view of the physical well-being of the youth of the country. But he also pointed out that nothing had been laid before Parliament in the shape of a report which favoured the idea of making young people criminals for smoking cigarettes. The practical question was whether they would get Parliament to sanction a proposal making it a penal offence to supply tobacco and its manufactured products to young people under 16 years of age. A few years ago such a proposal would have been a hopeless one but he felt bound to confess that the proved evidence of physical deterioration dissipated entirely the idea that the grievance was a negligible one. Personally he approved of the principle of Dr. Macnamara's Bill and he promised to suggest to the Secretary for Scotland the desirability of doing something to back up Dr. Macnamara's efforts.

HOUSE OF COMMONS.

Thursday, April 26th.

Physical Deterioration.

Mr. Weir asked the Secretary for Scotland whether the Local Government Board for Scotland had yet arranged to issue to parochial medical officers, sanitary inspectors, and inspectors of poor leaflets containing the opinions of the Committee on Physical Deterioration relative to ventilation and the bringing up of young children, with a view to the dissemination of information on these subjects.—Mr. Sinclair answered: The Board has prepared and will shortly issue a leaflet on the management of young children. It has already issued a comprehensive circular on the control of pulmonary tuberculosis, and it is now considering what further measures may be recommended.

The Central Midwives Board and Poor-law Infirmaries.

Mr. Helme asked the President of the Local Government Board whether, having regard to the refusal of the Central Midwives Board to recognise certain of the large Poor-law infirmaries as training institutions, he would have a return prepared showing the names of the institutions recognised as training institutions by the Central Midwives Board together with the number of midwifery cases in each.—Mr. John Burns answered: The Lord President of the Council is the Minister concerned with the Central Midwives Board and the matter referred to in the question is therefore for him. I understand, however, that there would be no objection on his part to give the information desired.

Friday, April 27th.

Sleeping Sickness in Africa.

Mr. Rees asked the Under Secretary of State for the Colonies whether special measures were being taken to guard against the spread of the sleeping sickness into British Central Africa Protectorate and North-Eastern Rhodesia by the tsetse fly or by other agencies, and whether the effect of the game preserves at Chiromo had been considered in connexion with this contingency.—Mr. Churchill answered: No apprehension has hitherto been expressed by the administration of the British Central Africa Protectorate or that of North-Eastern Rhodesia as to the spread of sleeping sickness into those territories, nor has the Commissioner of British Central Africa Protectorate recommended the adoption of measures to guard against it. Complaints have been made in one quarter in the Protectorate that the Elephant Marsh game reserve at Chiromo harbours the tsetse fly but the suggestion is denied by the Commissioner.

Monday, April 30th.

Vaccination in the Army.

Mr. Weir asked the Secretary of State for War whether he could state what quantity of glycerinated calf lymph was produced at the Army and Navy Vaccine Institute last year, the number of tubes used during the year at military stations, the number sold, and to whom.—Mr. Haldane answered: The quantity produced was sufficient for 107,766 vaccinations; the number of tubes used during the year at military stations was 67,635. No lymph produced at this establishment is sold.

Tuesday, May 1st.

Control of Pulmonary Phthisis.

Mr. Weir asked the Secretary for Scotland whether in view of the statement contained in the public health circular of March 10th last, entitled "Administrative Control of Pulmonary Phthisis," he would state what arrangements would be made for the notification of the disease in each of the six crofting counties.—Mr. Sinclair replied: The question whether the Infectious Disease (Notification) Act should be extended to include consumption is one for the decision of the local authorities concerned. The procedure required to be carried through is set forth in Section 7 of the aforesaid Act. I have also to refer the honourable Member to Part IV. of the Local Government Board's circular of March 10th last to which he alludes.

Administration of the Vaccination Act.

Mr. Wilkie asked the Secretary for Scotland whether he was aware that, in the administration of the Vaccination Act in Scotland, prosecutions and imprisonments of respectable citizens had recently occurred because of their conscientious objections to have their children vaccinated; and would he issue an order that, pending the promised inquiry on this matter, these prosecutions and imprisonments would be suspended.—Mr. Sinclair answered: I have no information as to the particular cases to which the honourable Member alludes. The parish councils in Scotland have no power to make exception in the case of conscientious objectors. Prosecutions and imprisonments could not be suspended without alteration of the law. The Local Government Board for Scotland has from time to time advised parish councils that they may exercise a reasonable discretion in the matter of enforcing the statutory penalties both in the case of a prosecution for failure to vaccinate a second child and in the case of a second prosecution for the same child. In giving this advice the Board has pointed out that, as default generally arises from negligence rather than from conscientious objection on the part of parents, it will be the duty of parish councils to use the most careful discretion where they relax the strict letter of the law in any case which may be brought before them.

Mr. Wilkie also asked the Home Secretary whether, in view of the manner in which the Vaccination Act had been administered and the treatment to which some conscientious objectors had been subjected, mainly owing to lack of uniformity in administration, he would in the circular he was about to issue, give instructions as to the manner of examination of poor applicants and arrange that whatever ameliorative administrative improvements were issued should be made applicable to Scotland, where recently respectable citizens had been imprisoned because they held conscientiously that this practice was not only useless but dangerous.—Mr. Gladstone answered: In the circular which I am about to issue I propose to draw the attention of magistrates to what I am advised is the real meaning and intention of the Act and to suggest considerations which may properly be taken into account in dealing with applications; but I have no authority to give any instructions in the matter. The Act does not extend to Scotland and the latter part of the question should be addressed to the Secretary for Scotland.

BOOKS, ETC., RECEIVED.

Miller, T. Maskew, 120, Adderley-street, Capetown.

Bantu Folk Lore (Medical and General). By Matthew L. Hewat, M.D. Price 7s. 6d. ("Copies obtainable through Messrs. J. and A. Churchill, London.")

Mittler, Ernst Siegfried, und Sohn, Kochstrasse, 68–71, Berlin.

Medizinal-Berichte über die Deutschen Schutzgebiete. Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea, Karolinen, Marshall-Inseln u. Samoa, für das Jahr 1903–04. Herausgegeben von der Kolonial-Abteilung des Auswärtigen Amts. Price M.7.50.

Moring, Alexander, Limited, The De La More Press, 32, George-street, Hanover-square, London, W.

A First German Course for Science Students. Comprising a Reader and Outline of Grammar, with Diagrams and Vocabulary. By H. G. Fiedler, Professor of German at the University of Birmingham, and F. E. Sandbach, Lecturer in German at the University of Birmingham. Price 2s. 6d. net.

Morrison I. Swift Press, New York.

Marriage and Race Death. The Foundations of an Intelligent System of Marriage. By Morrison I. Swift. Price 50 cents.

Office of the Superintendent of Government Printing, India, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Goverment of India. New Series. No. 22. Mediterranean Fever in India: Isolation of the Micrococcus Melitensis. By Captain George Lamb, M.D., I.M.S., and Assistant Surgeon M. Kesava Pai, M.B., C.M. Madras. Price 10 Annas or 1s.

Ponsonby and Gibbs, University Press, Dublin. (For the Royal University of Ireland.)

The Royal University of Ireland. Examination Papers, 1905. A Supplement to the University Calendar for the Year 1906. Price not stated.

Smith, Elder, and Co., 15, Waterloo-place, London, S.W.

Saint Bartholomew's Hospital Reports. Edited by A. E. Garrod, M.D., and W. McAdam Eccles, M.S., F.R.C.S. Vol. XLI. Price not stated.

Southern Surgical and Gynæcological Association. (Dr. W. D. Haggard, Jun., Secretary, Nashville, Tennessee, U.S.A.)

Transactions of the Southern Surgical and Gynæcological Association. Vol. XVII. Seventeenth Session, held at Birmingham, Alabama, Dec. 13th, 14th, and 15th, 1904. Edited by W. D. Haggard, M.D. Price not stated.

Spottiswoode and Co., Limited, 54, Gracechurch-street, London, E.C.

The Dentists Register: Printed and Published under the Direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to an Act passed in the Year XLI. and XLII. Victoriæ, Cap. XXXIII., entitled An Act to Amend the Law relating to Dental Practitioners. 1906. Price 3s. 4d. Copies for previous years, price 1s.

Wright, John, and Co., Bristol. (Simpkin, Marshall, Hamilton, Kent, and Co., Limited, London.)

The Medical Annual: A Year-book of Treatment and Practitioner's Index. 1906. Twenty-fourth Year. Price 7s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ADAMS, G. BASIL D., B.M., B.Ch. Oxon., has been appointed Assistant Resident Medical Officer at the King Edward VII. Sanatorium, Midhurst, Sussex.

ASHWIN, R. H., M.B. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Market Weighton District of the county of York.

AUDEN, G. A., M.D., B.C. Cantab., has been elected Assistant Honorary Medical Officer to the York County Hospital.

BRISCOE, WILLIAM THOMAS, M.D., M.Ch. Dub., has been appointed Medical Officer for the Pewsham District by the Chippenham (Wilts) Board of Guardians.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health by the Cirencester Rural District Council.

CARDOZO, S. N., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Northmolton District by the Southmolton (Devon) Board of Guardians.

HARDING, CHARLES HEADLEY, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Northern Division of the Whittlesea Union and Public Vaccinator to the Whittlesea Rural District.

HARTFORD, A. H. B., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Christchurch District of the county of Hants.

MACKEOWN, W. J., B.A., M.B., B.Ch. R.U.I., has been appointed Senior Assistant Medical Officer to the County Asylum, *Fareham*, Hants.

OLLERENSHAW, ROBERT, M.B., Ch.B. Vict., has been appointed Senior House Surgeon to the Liverpool Infirmary for Children.

RICHARDSON, R. R., L.D.S. R.C.S. Eng., has been appointed Assistant Honorary Dental Surgeon to the York County Hospital.

RENTZSCH, SIGISMUND HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed *Honorary* Medical Officer to the Stratton (Cornwall) Cottage Hospital.

ROLSTON, JOHN R., M.R.C.S., L.R.C.P. Edin., has been appointed Honorary Ophthalmic Surgeon to the Royal British Female Orphan Asylum, Devonport.

THOMAS, H. MORRISTON, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Royal National Orthopædic Hospital.

WAGGETT, ERNEST, M.B., B.C. Cantab., has been appointed Surgeon to the newly constituted Department for Diseases of the Throat, Ear, and Nose at Charing Cross Hospital.

WENHAM, SIDNEY, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at Charing Cross Hospital.

WILKINS, ERIC M., M.B. Vict., M.R.C.S., has been appointed Junior Assistant Medical Officer to the Monsall Fever Hospital, Manchester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Senior and Junior Resident Medical Officers for six months. Honorariums at rate of £20 and £10 a year respectively, with board and lodging.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80, with fees.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, fire, and gas.

BURLEY-IN-WHARFEDALE, SCALEBOR PARK (PRIVATE ASYLUM).—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, attendance, &c.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £80 a year, with board and lodging.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c. Also Physician to Out-patients. Also Surgeon Dentist.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £80 per annum, with board, washing, and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months, renewable. Salary £80 per annum, with rooms, board, washing, and attendance.

DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £125, rising to £155 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

FAREHAM, HANTS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, board, washing, and attendance.

GOSFORTH, NEWCASTLE-ON-TYNE CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 a year, rising to £250, with apartments, board, and laundry.

HARTSHILL, STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board, apartments, and washing.

ITALIAN HOSPITAL, Queen's-square, London, W.C.—Honorary Assistant Physician.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board and residence.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board and residence.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—House Surgeon. Salary £75 per annum, with board and residence.

METROPOLITAN ASYLUMS BOARD, Downs School, Sutton, Surrey (for Children with Ringworm).—Assistant Medical Officer. Salary £250 per annum and dinner.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer. Salary £80 per annum, with board, attendance, and washing.

NATIONAL DENTAL HOSPITAL AND COLLEGE, Great Portland-street, W.—Anæsthetist.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon for six months, renewable. Salary at rate of £50 per annum, with board, residence, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant to the Clinical Pathologist (salary £50 per annum); also Junior Obstetric Assistant and Assistant Anæsthetist. All females.

SHEFFIELD, ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £65 per annum, with board, lodging, and washing. Also Junior House Physician. Salary £80 per annum, with board, lodging, and washing.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer. Salary £200 per annum, with apartments, rations, &c. Also Resident Assistant Medical Officer. Salary £120 per annum, with apartments, rations, &c.

SOCIETY OF APOTHECARIES OF LONDON.—Examiner in Midwifery.

SURREY DISPENSARY, Southwark, S.E.—Resident Medical Officer. Salary £140 per annum, with apartments, coals, gas, and attendance.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum, with board, apartments, washing, and attendance.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Honorary Anæsthetist. Also Surgeon to In-patients. Also House Surgeon.

WELLS, SOMERSET AND BATH ASYLUM.—Second Assistant Medical Officer. Salary £150, rising to £250 per annum, with board, lodging, washing, and attendance.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence, and washing.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.—Clinical Assistant.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and apartments.

Births, Marriages, and Deaths.

BIRTHS.

GOUGH.—On April 24th, at Glenallen, Torquay, the wife of John Harley Gough, M.D., B.Sc., F.R.C.S.E., of a son.

JOHNSTON.—On April 24th, at Corstorphine House, Corstorphine, N.B., the wife of T. N. Johnston, M.B., C.M., F.R.S.E., of a daughter.

LAY.—On April 25th, at Peasenhall, Saxmundham, Suffolk, the wife of Charles E. Lay, L.R.C.P., L.R.C.S. Edin., L.M., of a daughter.

PEDLEY.—On April 22nd, at The Terrace, Tonbridge, Kent, the wife of G. A. Pedley, M.R.C.S., L.R.C.P., Lond., &c., of a son.

MARRIAGES.

ALDERSON—SWINDALE.—On April 26th, at St. Margaret's, Ipswich, Percy Francis Alderson, Surgeon, R.N., to Kathleen Ellen Kay, fifth daughter of J. Swindale, M.R.C.S., Warrington-road, Ipswich.

PATON—KIRKWOOD.—At Skelmorlie, on April 26th, by the Rev. John Hunter, D.D., Leslie Paton, M.B., F.R.C.S., of 1, Spanish-place, Manchester-square, W., to May, daughter of the late Richard Reid Kirkwood, West India Merchant.

STEELE—ROGERS.—On April 26th, at St. Peter's, Eaton-square, S.W., by the Rev. F. F. Kelly, LL.D., assisted by the Rev. the Precentor G. G. Wilkinson, Charles Francis Steele, M.B. London, M.R.C.S., L.R.C.P., eldest son of Charles Steele, M.D., of Clifton, to Anita Russell Rogers, youngest daughter of the late Edward Drewer Rogers, D.L., of Rockley, Denmark Hill. Foreign papers please copy.

THOMPSON—DAVIES.—On April 25th, at St. Paul's Church, Helsby, Peter Thompson, M.D., Professor of Anatomy, King's College, London, to Nessy, the eldest daughter of Mr. G. L. Davies, J.P., The Old Hall, Helsby, Cheshire.

THOMPSON—HOOPER.—On April 26th, at the parish church, Ripley, Derbyshire, by the Rev. E. T. Page, Walter Thompson, F.R.C.S. Eng., of 4, Park-square, Leeds, youngest son of the late Samuel Thompson of East Rigton, Yorkshire, to Ann Elizabeth Hooper, M.B., B.S. Lond., daughter of Marshall Hooper, J.P., of Ripley, Derbyshire.

DEATH.

BATEMAN.—On April 25th, at Woodgate, Somerset-road, Ealing, Colonel Daniel Frederick Bateman, I.M.S., in his 66th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN UNFORTUNATE CIRCULAR.

To the Editors of THE LANCET.

SIRS,—With reference to the paragraph in your issue of the 28th instant permit me to say that this has caused Dr. O'Connor as much annoyance as it has caused me surprise. I am entirely responsible for the circular referred to, which was issued in the interests of the *tenants of St. James' Court alone, to inform them of* a local advantage which tenants in a huge residential property such as this invariably expect to find and about which prospective tenants make a point of inquiring before arranging a tenancy of a flat. I cannot quite imagine why from the communication you have received alone you should criticise my circular in such a manner, my action being merely a businesslike one in the interests of the property and not in the least degree of interest to any medical body. No such arrangement had previously existed with any particular medical attendant and when it was concluded with Dr. Moylo O'Connor it was my duty at once to inform the tenants. That this is not an uncommon or unusual course the pamphlet I am sending you herewith, relating to another of the largest residential properties in London, will demonstrate to you, the name, qualifications, and previous experience of the medical attendant being fully stated in the pamphlet which is handed to every tenant and every inquirer in connexion with the property in question. No doubt in these circumstances you will do Dr. O'Connor and myself the justice to explain the true position to your readers and disabuse their minds of the erroneous impression evidently conveyed to you by a medical man who was not successful in securing this position himself.—I am, Sirs, your obedient servant,

J. MUNRO ROGER,
Resident Estate Manager, St. James' Court.
St. James' Court, Buckingham Gate, S.W., April 30th, 1906.

*** A pamphlet forwarded to us later by Mr. Munro Roger shows that Queen Anne's Mansions, Westminster, advertises for the benefit of those whom it may concern the fact that a medical man (name given) "is in residence at the mansions and his services can be obtained at any moment."—ED. L.

THE MEDICAL TERMS OF THE EPISTLE TO THE HEBREWS.

To the Editors of THE LANCET.

SIRS,—I am anxious to discover the name of the author of a monograph on "The Medical Terms in the Epistle to the Hebrews." I am under the impression that some years ago (I fancy about six) I saw the work referred to in an obituary notice of its author in your columns.

I am, Sirs, yours faithfully,
April 30th, 1906. M.D.

*** *Possibly some of our readers can assist our correspondent.* The resemblance between the language of the Gospel according to St. Luke and that of the Epistle to the Hebrews has been insisted upon by many writers, from Clement of Alexandria downwards.—ED. L.

AN EXHIBITION OF LEADLESS GLAZE.

AN exhibition of newest designs in leadless glazes was opened at 25, Chepstow Mansions, Chepstow-place, London, W., on May 2nd and will remain open until May 19th. We understand that considerable strides have recently been made in the introduction of pottery, both of a useful and an ornamental character, in the *manufacture of* which there is no danger to the workers in the dipping house of poisoning by contact with raw lead compounds.

MONSTERS.

To the Editors of THE LANCET.

SIRS,—Your correspondent "X" will find Hirst and Piersol's "Human Monstrosities" (Pentland) very useful. There is an excellent article on Teratology in Todd's "Cyclopædia of Anatomy and Physiology." Geoffrey Saint-Hilaire's book, "*Histoire des Anomalies*," published in 1832, is unrivalled. An interesting old work on the subject, published in 1665, is Licetus' "De Monstris."

I am, Sirs, yours faithfully,
F.
May 1st, 1906.

MISS WESTON'S WORK IN THE ROYAL NAVY.

Miss Weston's work at the Sailors' Rests and elsewhere on behalf of the seamen of the Royal Navy is well known to our readers, for it has often been mentioned favourably in our columns. On Tuesday last, May 1st, the annual meeting was held at Portsmouth, when both Miss Weston and her co-trustee, Miss Wintz, were able to give a thoroughly satisfactory account of their labours to an enthusiastic audience. The success achieved during the past year was remarkable. The visit of the French fleet to Portsmouth last summer was the occasion of much hospitality at the Royal 'Sailors' Rest. Some thousands of French seamen were made welcome and 15,000 booklets were distributed among them. Miss Weston received a warm vote of thanks from the men and a kind letter from Admiral Caillard, the French Commander-in-Chief. The circulation of *Ashore and Afloat* remains very large; the number issued during the year was 1,434,930, an increase of 42,750 over the previous year. A new wing has been added to the Portsmouth Royal Sailors' Rest, consisting of a small hall, club and class rooms, seamen's reading rooms, and a petty officers' coffee room, costing some £5000; this wing is just about to be opened by the Naval Commander-in-Chief, Admiral Sir Archibald Douglas. The number of men sleeping at the various Sailors' Rests during the year stands at 363,703. The number of baths given was 79,610 and of meals 677,137. The receipts were £30,977 2*s.* 4*d.* All the profits were, as usual, spent for the benefit of blue-jackets, their wives, and families. The quantity of meat consumed stands at 109,003 pounds, tea 6704 pounds, eggs 374,000, and milk 20,090 gallons. Miss Weston is raising the money for a Nelson Memorial block at Portsmouth, which she hopes to commence shortly, and so to add still more to the efficiency of her work at the premier naval port.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (12th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are *performed daily*.

SOCIETIES.

MONDAY (7th).—SOCIETY OF ENGINEERS (Royal United Service Institution, Whitehall).—7.30 P.M. Paper:—Dr. D. Sommerville: The Chemistry and Bacteriology of Potable Waters.

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. *Paper:—Dr. G. Rankin* and Dr. E. O. Mackay: Achondroplasia (with epidiascope demonstration).

MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.15 P.M. Exhibition of Medico-legal *Specimens*. Discussion on Insanity and Murder (opened by Dr. O. Shaw). Mr. Justice Walton (President), Dr. H. Maudsley, Dr. T. S. Clouston, Dr. J. Scott, and Dr. Cowburn are expected to contribute.

WEDNESDAY (9th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish square, W.).—5.15 P.M. Meeting.

SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M. *Paper:*—Prof. T. Oliver: Bridge Building by means of Caissons, including *Remarks upon* Compressed Air Illness.

THURSDAY (10th).—HARVEIAN SOCIETY OF LONDON (Paddington Infirmary, Harrow road, W.).—8.30 P.M. Clinical Meeting. Cases will be shown.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Paper:—Mrs Scharlieb: The Advantages of the Abdominal Route in Operations for Cancer of the Uterus.

FRIDAY (11th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. C. Wallace: Case of Cystic Tumour of the Spermatic Cord.—Mr. A. C. Hudson: Carcinoma of the Thyroid Gland.—Mr E. W. Roughton: Case of Perforated Gastric Ulcer treated by Evisceration and Irrigation.—Mr J. D. Malcolm: Complete Removal of a Multilocular Cyst of the Pancreas; Intestinal Anastomosis for Partial Obstruction 16 Days later.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin) 5.15 P.M. Lecture:—Dr. J. E. Squire: Bronchiectasis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon. Dr. H. Wright: Pathological Demonstration. 2.15 P.M. Medical and Surgical Clinics. 3 P.M. Dr. Hood: Demonstration in Medical Wards. 5 P.M. Dr. Russell: Cerebral Hæmorrhage and Thrombosis.

CHARING CROSS HOSPITAL.—4 P.M. Dr. I. Bruce: Demonstration (Electrical) (Post Graduate Course.)

TUESDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. A. Sutherland: Clinique. (Medical.) 5.15 P.M. Lecture:—Mr. H. J. Paterson: Gastric Ulcer.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2.15 P.M. Medical and Surgical Clinics. 5 P.M. Dr. Russell: Cerebral Hæmorrhage and Thrombosis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. Tooth: Neuritis.

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Clinical Lecture:—Dr. H. Corner: Mental Affections of Childhood and Adolescence.

WEDNESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. P. L. Daniel: Clinique. (Surgical) 5.15 P.M. Lecture:—Dr. G. H. Savage: Eccentricity and Insanity.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2.15 P.M. Medical and Surgical Clinics. 5 P.M. Dr. Beddard: Practical Medicine.

UNIVERSITY COLLEGE HOSPITAL (Gower street, W.C.).—4 P.M. Clinical Lecture:—Dr R. Bucknall: The Diagnosis and Treatment of Tubercular Disease of the Spine.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, W.C.).—5 P.M. Demonstration:—Dr. D. Grant: Larynx.

THURSDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical) 5.15 P.M. Lecture:—Mr C. Nourse: Some Points in the Diagnosis and Treatment of Frontal Sinusitis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2.15 P.M. Medical and Surgical Clinics. 4 P.M. Mr. Keetley: Demonstration in Surgical Wards. 5 P.M. Mr. Baldwin: Practical Surgery.

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. A. J. Whiting: Clinical Examination of the Blood.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Wallis: Demonstration (Surgical).

FRIDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. S. Stephenson: Clinique. (Eye)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2.15 P.M. Medical and Surgical Clinics. 3 P.M. Dr S. Taylor: Demonstration in Medical Wards. 5 P.M. Dr. Abraham: Cases of Skin Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr R. Russell: Cerebral Tumours.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 3rd, 1906.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks.
April 27	29·81	N.E.	–	105	56	35	38	43	Cloudy
" 28	29·37	N.W.	0·25	94	52	43	44	46	Cloudy
" 29	29·39	W.	0·02	107	52	35	38	41	Fine
" 30	29·42	E.	0·05	75	49	37	41	43	Raining
May 1	29·65	N.	0·10	89	53	37	39	41	Cloudy
" 2	29·73	S.		79	54	40	44	49	Cloudy
" 3	29·78	S.S.W.	0·03	95	59	47	49	54	Cloudy

During the week marked copies of the following newspapers have been received:—*Yorkshire Post, Leicester Advertiser, Manchester City News, Evening News (Portsmouth), Leamington Spa Courier, Herefordshire Mercury, Western Mail (Cardiff), Westminster Gazette, The Tribune, Liverpool Post and Mercury, Surrey Advertiser, Literary Digest (New York), Scientific American, Manchester Chronicle, Irish Times, Morning Leader, Daily News, St. Louis Medical Review (U.S.A.), Daily Chronicle, &c.*

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X.—X. Y. Z.

Letters, each with enclosure, are also acknowledged from—

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The Goulstonian Lectures

ON

AUTO-INTOXICATION: ITS RELATION TO CERTAIN DISTURBANCES OF BLOOD PRESSURE.

Delivered before the Royal College of Physicians of London on March 13th, 15th, and 20th, 1906,

BY H. BATTY SHAW, M.D. LOND., F.R.C.P. LOND.,

LECTURER IN THERAPEUTICS, UNIVERSITY COLLEGE, LONDON; ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

LECTURE I.

Delivered on March 13th.

MR. PRESIDENT AND GENTLEMEN,—Before entering upon the discussion of the subject of auto-intoxication it is my duty to acknowledge the high compliment that has been paid to me by inviting me to deliver the Goulstonian lectures for the present year. Dr. Goulston was impressed with the importance of pathological study and sought to insure that lectures should be given annually by one of the four junior Fellows of this College on observations resulting from a close scrutiny of pathological problems. He thereby contributed his support to the wholesome belief that theoretical considerations should not be tolerated except when supported by direct observation. If during these lectures I confine myself largely to problems connected with proteid and nucleo-proteid reaction both in the natural and disintegrated state rather than to the study of carbohydrates and of hydrocarbons, an explanation is offered that only last year Dr. W. Cecil Bosanquet on a similar occasion to the present one drew attention to this most interesting side of the problem. If, again, the considerations to be put before you on the present occasion refer largely to matters connected with the disturbances of the circulation and the cardio-vascular mechanism, the reason offered is that during the last few years such important additions have been made to our methods of clinically investigating circulatory disorders, that it appears to your lecturer that the time is ripe for a consideration of some pathological problems which now have assumed a new aspect.

It is an experience common to us all that during our careers as physicians some one of the numerous problems brought to our notice at the bedside, post-mortem room, or laboratory has appealed to us with peculiar insistence. The following incident is a case in point.

A married woman, aged 48 years, was admitted to University College Hospital under the care of the late Dr. G. V. Poore. She was suffering from acute bronchitis and died a few minutes after admission. At the post-mortem examination, besides diffuse bronchitis and scattered patches of broncho-pneumonia, the following observations were made. The heart weighed 14 ounces, the left ventricle was hypertrophied, the mitral valves were sclerosed and incompetent, and the arch of the aorta showed atheroma. The right kidney was considerably enlarged and showed the scar of an infarct, its weight amounted to seven ounces; the left kidney showed extreme contraction and weighed 240 grains. The total kidney substance amounted to 213·95 grammes (the total kidney substance of an average adult male amounts to 277 grammes). The presence of an infarct scar in the right kidney suggested that a similar process accounted for the extreme shrinkage of the left kidney. To Dr. Harold S. Capper, house physician to Dr. Poore, was due the credit of making a close examination of the left renal artery. It admitted a fine bristle with difficulty; on carefully opening the renal artery a patch of atheroma was found which was responsible for the occlusion which had led to such a remarkable shrinkage of the left kidney.

Various points may be raised from a consideration of this case—e.g., on the share in the hypertrophy of the heart due to the mitral regurgitation and the share due to the practical annihilation of one kidney and the damage done to the other. Such questions in this case cannot be clearly answered, but another question arises and that is, Do we pay sufficient attention in the elucidation of various pathological problems to the grave results which may follow arterial disease? and a final problem is raised, What is the effect upon the economy when an organ such as the kidney disintegrates? It obviously must have disintegrated and the products of disintegration must have entered the circulation by the veins or lymphatics, and it is quite a subject for discussion to consider the possible effects of the presence in the circulation of such products of cell destruction.

No doubt the majority of diseases arise from external agencies but it is the object of these lectures to consider the possible effects due to auto-intoxication, to inquire into the changes which take place when from any other cause the organs and tissues of the body are made to disintegrate. Too large a field would lie before us if we attempted to discuss those auto-intoxications which result from the suppression of functions of various organs or from the internal diversion of natural excretions. Moreover, it is entirely beyond the scope of these lectures to discuss the so-called auto-intoxications which arise from infections occurring in the alimentary canal or other passages connected with the exterior. In other words, these lectures will to a certain extent concern themselves with very similar problems to those to which Gautier and Bouchard years ago addressed themselves. The term "leucomaines" was applied to three groups of bodies as represented by choline, uric acid, and creatinine. No doubt from a physiological point of view many of these leucomaines have in the past been regarded as very mildly toxic agents, but it is fair to assume with Pflüger that in pathological conditions, especially in cases where elimination is interfered with, the accumulation of the products of cellular disintegration, whether of a physiological or pathological origin, may have harmful effects.

At the present moment there are various reasons why pathology should be interrogated as to its answer to the question what symptoms and signs met with at the bedside may be attributed to auto intoxication in the above restricted sense. The principle is admitted most widely, but the exact evidence supporting such theory is, to say the least, not set out in our systems of medicine as clearly as the frequency with which we do not hesitate to invoke auto-intoxication demands. Another reason for discussing the problem is undoubtedly due to the fact that we are not able to trace directly to bacterial invasion some of the manifestations met with clinically: observers are quite sure that some effects are due to quite different causes than bacterial invasion. Toxins of cellular origin have been found to exist and brilliant discoveries have of late years been made in the domain of cytotoxins and of the interaction of organs derived from different animals upon one another. Such a subject, however, could not possibly form any part of a course of lectures on auto-intoxication. Much more excuse, however, is found for such lectures as the present one, on the grounds that in the domain of chemical physiology great advances have been made not only abroad but in this country. The reaction of derivatives of the disintegration of cells is a subject which appears, ever since the discoveries made by the late Dr. Wooldridge, to have excited particular interest in this country and in my endeavours to approach the subject of auto intoxication I find that his researches form the foundation of a great deal of modern chemical physiology and largely, I venture to think, because with such clear insight he saw what an immense importance such a subject has for pathology. If a large part of these lectures is devoted to the subject of blood pressure in disease, my excuse must be that the remarkably accurate estimate given by the sphygmomanometer of human blood pressure[1] has given such an impetus to the investigation of clinical blood pressure that we are flooded out with a large number of facts but are hardly able to appreciate their significance.

With this brief introduction I may pass on to the closer study of auto-intoxication—i.e., to the study of the effects of the dissolution of cells of various organs and tissues as shown by the toxic effects of their products, restricting myself in the main to the consideration of the products of proteid and nucleo-proteid degradation, including not only the deep degradation products but those more vital agencies a study of which is only possible when we examine the effects produced by fresh tissues—i.e., tissues which, though disintegrated by mechanical means, may be considered still living tissue in so far as the formation of their deep disintegration products has not yet begun.

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[1] Lockhart Mummery: Proceedings of the Physiological Society Feb. 25th, 1905, xviii.

BLOOD PRESSURE IN HEALTH AND DISEASE.

Very considerable interest has been aroused in recent years in the clinical observations of blood pressure. The range of variations in different diseases is considerable and great departures from the normal have been observed in various medical disorders. I propose to bring before you some observations made on patients under the care of my colleagues. Care has been taken to follow the precautions laid down by various writers on the subject. The observations were taken twice daily at about 9–10 A.M. and 8–10 P.M. In all cases, where possible, the patients were recumbent and the arm was so arranged that that part of the limb—viz., the upper arm—on which the sleeve of the sphygmomanometer was applied was on the level of the heart. In some cases recumbency was impossible: then the arm was raised by means of pillows so that the upper arm and heart were on the same level. The instrument used throughout has been the Riva-Rocci sphygmomanometer as modified by von Recklinghausen.[2] The latter observer discovered that the width of the armlet or manchette was of importance; if too narrow the pressure reading was considerably higher than if a wider armlet was used. The size of the sleeve which von Recklinghausen found to be the most satisfactory was for an average adult's arm 10 centimetres; a width of 15 centimetres was suitable for all sizes of arms. The armlet used in the present observations consisted of two parts, a rubber bag which was immediately applied to the arm and a metal band which encircled the bag; the former measured 13·97 centimetres and the latter 12 centimetres in width. The tubing was stiff rubber, outside diameter half an inch and diameter of bore three-sixteenths of an inch. As much precaution as possible was taken to prevent any excitement on the part of the patient when the reading was taken. The readings at night were in a large proportion of cases taken by members of the nursing staff of University College Hospital; in the mornings the observations were mostly personal ones. The blood pressure observations represent the systolic pressure, air being pumped into the hollow armlet until the pulse of the arm was obliterated and then observation was made of the height of a column of mercury in a manometer connected with the hollow armlet; that height was recorded at which the pulsation of the radial artery returned; the readings were repeated once or twice before being recorded and in many cases until accuracy was secured to the observer the observations were checked by another observer. In all cases, unless otherwise specified, there was complete absence of œdema or muscular rigidity.

Thayer[3] has constructed a table of the blood pressure in 276 healthy individuals arranged in decades. Making a correction of 25 millimetres for the use of a 5·0 centimetre armlet in the cases he observed after ten years of age, the variation is shown as in the accompanying chart.

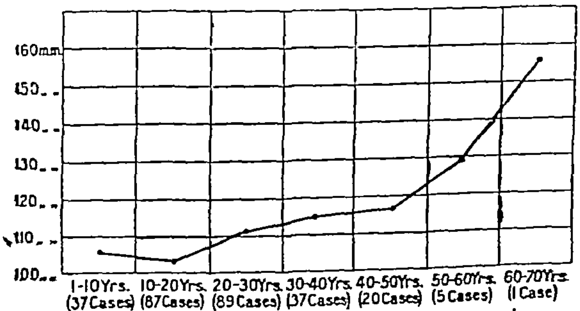

Diagram showing rise of systolic pressure with increasing years in healthy persons.

The rise of pressure in later years may be due to a variety of causes of pathological nature; the common visible accompaniments of advancing age—viz., arterio-sclerosis and cardiac hypertrophy—are well known, but as it is also known that old age may occur without these accompaniments, it must be felt that the rise of pressure so often met with in old age may be due to certain causes of which at present we are ignorant and which are of a pathological origin. Through the courtesy of Dr. Harley Brooks of the Mile End Infirmary it has been possible to add further observations on the blood pressure of elderly people. 23 men were examined between 10 A.M. and 12 noon and the blood pressures were taken in the manner already described. Two cases were observed at ages between 40 and 50 years; two between 50 and 60 years; seven between 60 and 70 years; four between 70 and 80 years; and eight between 80 and 90 years. The average pressure of the seven cases between 60 and 70 years was 155·8 millimetres, which agrees with the one case recorded in Thayer's chart; between 70 and 80 years the average pressure was 166 millimetres; and between 80 and 90 years 155·3 millimetres. Most of these patients were bed-ridden; the observations made are shown in Table I.

TABLE I.—*Systolic Blood Pressure in Infirmary Patients (Men in Recumbency).*

Case.	Age.	Systolic pressure.	Clinical association.
1	49	83 mm.	Tuberculosis; arterio-sclerosis; no albumin.
2	46	143 ,,	Ulcers of the legs; no arterio-sclerosis; no albumin.
3	55	138 ,,	Rheumatoid arthritis; slight albumin.
4	53	163 ,,	Sciatica; arterio-sclerosis; no albumin.
5	69	158 ,,	Ulcers of the legs; trace of albumin; very slight arterio-sclerosis.
6	67	170 ,, (left arm)	Right hemiplegia; arterio-sclerosis; some albumin.
7	65	110 mm.	Arterio-sclerosis; ? lymphadenoma; no albumin.
8	60+	160 ,,	Ununited fracture; no albumin.
9	65	160 ,,	Paralysis agitans; slight arterio-sclerosis; no albumin.
10	66	123 ,,	Bronchitis; moderate arterio-sclerosis; no albumin.
11	60+	210 ,, (right arm)	Left hemiplegia; marked arterio-sclerosis; albumin present.
12	76	180 mm.	Diarrhœa; moderate arterio-sclerosis.
13	72	194 ,, (left arm)	Partial right hemiplegia; trace of albumin.
14	78	155 mm.	Debility; arterio-sclerosis.
15	73	145 ,,	Ulcer of the leg; moderate arterio-sclerosis; albumin.
16	80+	155 ,,	Eczema; arterio-sclerosis.
17	82	144 ,,	"Senility"; albumin present; arterio-sclerosis.
18	88	130 ,,	Marked arterio-sclerosis; diarrhœa, "debility."
19	81	107 ,,	Marked arterio-sclerosis; ? cystitis.
20	80	175 ,,	Debility; arterio-sclerosis; no albumin.
21	86	190 ,,	Bronchitis; marked arterio-sclerosis; albumin.
22	83	182 ,,	"Debility"; arterio-sclerosis.
23	83	160 ,,	Bronchitis; arterio-sclerosis; albumin.

Three only of these cases show moderate pressure. Case 1, aged 49 years, showed a pressure of 88 *millimetres*; it will be noticed that he had tuberculosis of the lungs, a disease which is associated with low pressure. Case 7, aged 65 years, had a pressure of 110 millimetres; Case 10, aged 66 years, had a pressure of 123 millimetres; and Case 19, aged 81 years, had a pressure of 107 millimetres; in this latter case it is to be observed that the urine was offensive. Despite the want of uniformity in the readings of the sphygmomanometer these observations confirm the view that with increasing years there is generally a rise of arterial pressure. To mark the contrast between this hypertension of age and possibly disease with the pressure met with in an earlier period of life with health reference was made to the blood pressure of young healthy males in the persons of 42 schoolboys attending University College School. I take this opportunity to thank Dr. H. J. Spenser for his courtesy in allowing these observations to be made. These boys were so healthy that they were able to take part in gymnastic exercises. The time chosen for examination was between 10.30 A.M. and 12.40 P.M. The boys were immediately before examination engaged in class work, not in gymnastic exercises. The average blood pressure in recumbency of six boys between 11½ and 12½ years of age was 104·5 millimetres; between 12½ and 13½ years, 105·5 millimetres; between 13½ and 14½ years, 107·5 millimetres; between 14½ and 15½ years, 108·8 millimetres; between 15½ and 16½ years, 124·1 millimetres; between 16½ and 17½ years, 118·8 millimetres; and between 17½ and 18½ years, 111·6 millimetres. (Table II.)

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[2] Von Recklinghausen: Archiv für Experimentelle Pathologie und Pharmakologie, 1901, Band xlvi., S. 78.

[3] Thayer: American Journal of the Medical Sciences, 1904, vol. cxxvii., p. 391.

TABLE II.—*Systolic Blood Pressure in Apparently Healthy Young Males (in Recumbency).*

No.	Age	Pressure	No	Age.	Pressure.
1	$11\frac{6}{12}$	95 mm.	22	$15\frac{3}{12}$	128 mm
2	$11\frac{8}{12}$	106 „	23	$15\frac{4}{12}$	140 „
3	$11\frac{9}{12}$	107 „	24	$15\frac{5}{12}$	127 „
4	$12\frac{1}{12}$	93 „	25	$15\frac{7}{12}$	110 „
5	$12\frac{3}{12}$	121 „	26	$15\frac{8}{12}$	135 „
6	$12\frac{6}{12}$	100 „	27	$15\frac{11}{12}$	125 „
7	$12\frac{7}{12}$	115 „	28	$16\frac{2}{12}$	125 „
8	$12\frac{9}{12}$	108 „	29	$16\frac{3}{12}$	130 „
9	$12\frac{11}{12}$	93 „	30	$16\frac{6}{12}$	120 „
10	$13\frac{1}{12}$	97 „	31	$16\frac{7}{12}$	118 „
11	$13\frac{3}{12}$	106 „	32	$16\frac{10}{12}$	103 „
12	$13\frac{6}{12}$	109 „	33	$16\frac{11}{12}$	105 „
13	$13\frac{8}{12}$	104 „	34	$17\frac{1}{12}$	122 „
14	$13\frac{10}{12}$	105 „	35	$17\frac{4}{12}$	152 „
15	$13\frac{11}{12}$	112 „	36	$17\frac{6}{12}$	113 „
16	$14\frac{3}{12}$	127 „	37	$17\frac{8}{12}$	98 „
17	$14\frac{4}{12}$	103 „	38	$17\frac{9}{12}$	109 „
18	$14\frac{5}{12}$	95 „	39	$17\frac{11}{12}$	128 „
19	$14\frac{10}{12}$	87 „	40	$18\frac{2}{12}$	93 „
20	15	127 „	41	$18\frac{3}{12}$	137 „
21	15	104 „	42	$18\frac{4}{12}$	105 „

Here, again, it is very obvious that there are variations in the systolic blood pressure of different individuals of the same age and from the above table it will be seen that there is no steady advance in pressure in accordance with the age of these youths; no doubt some of the pressures are unusually high and may be attributable to a little excitement on the part of the boys examined. Precautions were, however, taken to avoid these disturbances as much as possible, the pressure being first taken in the sitting posture to accustom them to the instrument and then after from three to four minutes' recumbency they were examined again and the above results obtained. It is well known that a very different reading is given after the same mental excitement in individuals of different temperament, being higher in the more excitable

BLOOD PRESSURE IN DISEASE.

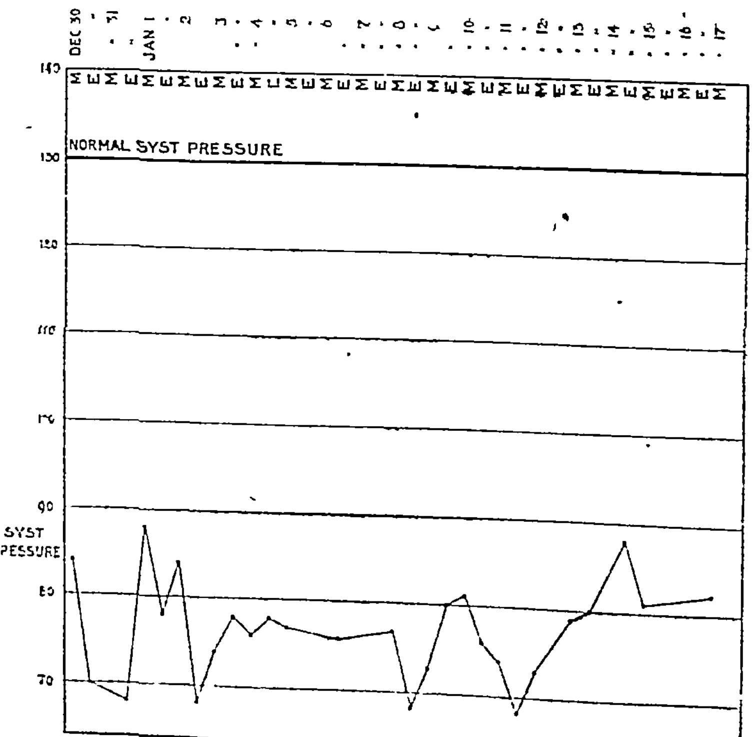
Janeway[4] states that in adult life the pressure is in men before 50 years of age from 100 to 130 millimetres and after 50 years from 130 to 145 millimetres, and in women about 10 millimetres less using the 12 centimetre armlet. Observations, 68 in number, have been made in various forms of disease in the wards of my colleagues at University College Hospital. Taking Janeway's figures as a guide, 42 cases were found to have systolic pressures within the limits of ordinary health, and these included under a clinical diagnosis: cirrhosis of the liver, four cases; valvular disease, eight cases; *diabetes mellitus, four cases; bronchitis* and emphysema, four cases; aneurysm and arterio-sclerosis, two cases; tuberculosis of the lungs, two cases; other diseases, 18 cases. (Under the last category are included dyspepsia, ascites following removal of ovarian tumour, meningitis, disseminated sclerosis, neurasthenia, gastric ulcer (two cases), gall-stones (without jaundice), tabes dorsalis (two cases), alcoholic neuritis, hæmaturia, acute rheumatism, otitis media, pernicious anæmia, exophthalmic goitre, lymphadenoma, and trypanosomiasis.

A second group of cases of *abnormal* blood pressure includes two subdivisions: 1. A number of cases in whom the blood pressure was *lower* than normal. They were 14 in number and included the following: acute bronchitis (fatal), arterio-sclerosis (? abdominal aneurysm), acute pneumonia, cirrhosis of the liver, advanced carcinoma of the stomach (two cases), jaundice (two cases), empyema, malaria, status epilepticus, chronic Bright's disease, aneurysm of the arch of the aorta, and a case of unusual character in which the only signs were pain about the root of the nose associated with a hard œdema of the neighbouring skin, independent of suppuration of the frontal sinuses, &c. (See Charts 1 and 2) 2. A number of cases in whom the blood pressure was *higher* than normal; these were 12 in number.

CASE 1.—A man, aged 80 years, was taken to the hospital shortly after an attack of giddiness and fainting which occurred whilst walking. He was found to be conscious but there was paresis of the left arm, leg and face. The pulse was 90, of large volume and of high tension. There were present marked arterial disease and an accentuated second aortic sound. The urine was reduced in amount, showed a specific gravity of 1018 and a cloud of albumin. The blood pressure is shown in Chart 3.

A post-mortem examination was made eight days after admission. There was no cerebral hæmorrhage: the arteries at the base of the brain were markedly atheromatous and dilated. There was no thrombosis in the larger cerebral vessels; the sinuses were normal; the convolutions were apparently normal. The heart weighed 16 ounces; the valves were normal. There was atheroma of the aorta, the limb-vessels, and the coronary arteries. With regard to

CHART 1.



A man, aged 41 years, carcinoma ventriculi the kidneys, the right weighed four ounces and the left four ounces; the capsules were adherent; the cortex was reduced to one-eighth of an inch, the substance was tough, and cysts were present.

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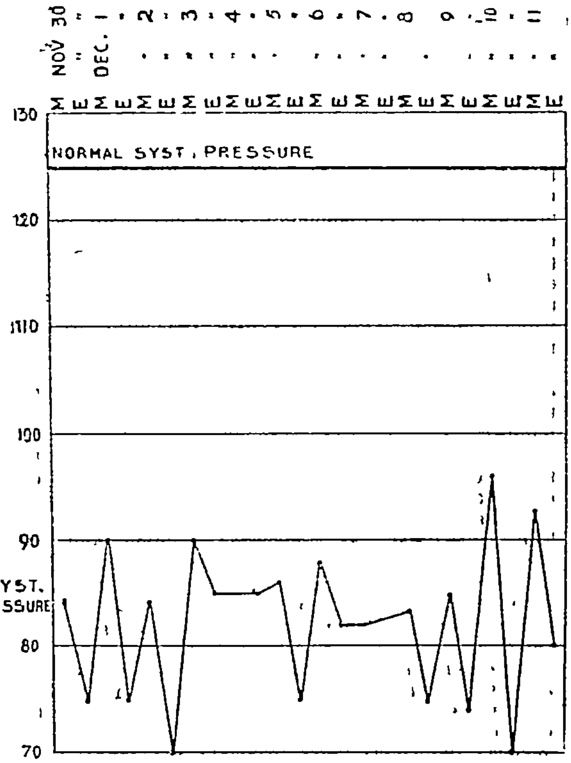
[4] Janeway: The Clinical Study of Blood Pressure, 1904.

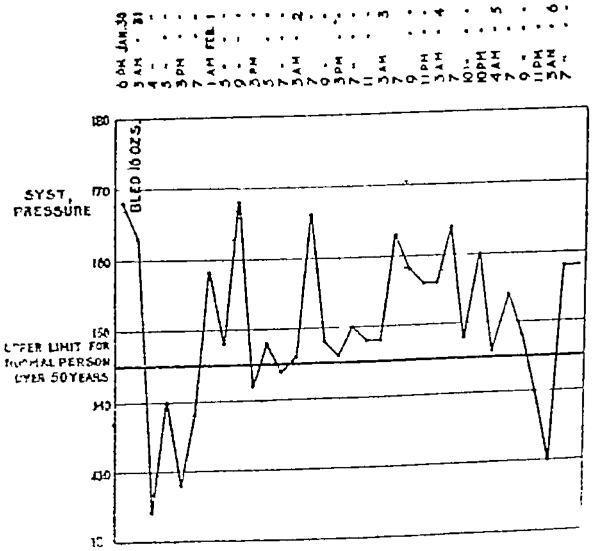
CHART 2.



A man, aged 35 years; œdema of the face.

CASE 2 (*vide* Chart 4).—A man, aged 41 years, was admitted for headache and hæmaturia. The patient was emphysematous and the body was well covered; no clinical signs of hypertrophy of the heart were present; there was slight tortuosity of the vessels. The quantity of urine varied from 20 to 58 ounces daily; it was of specific gravity 1010 to 1015 and contained albumin from 0·15 to 0·175 per cent.; it contained blood and a variety of casts. Œdema was slight and confined to the lower trunk and legs. The headache gradually disappeared and the hæmaturia became less. The patient was discharged at his own request; the albuminuria being still present; the œdema had disappeared.

CHART 3.

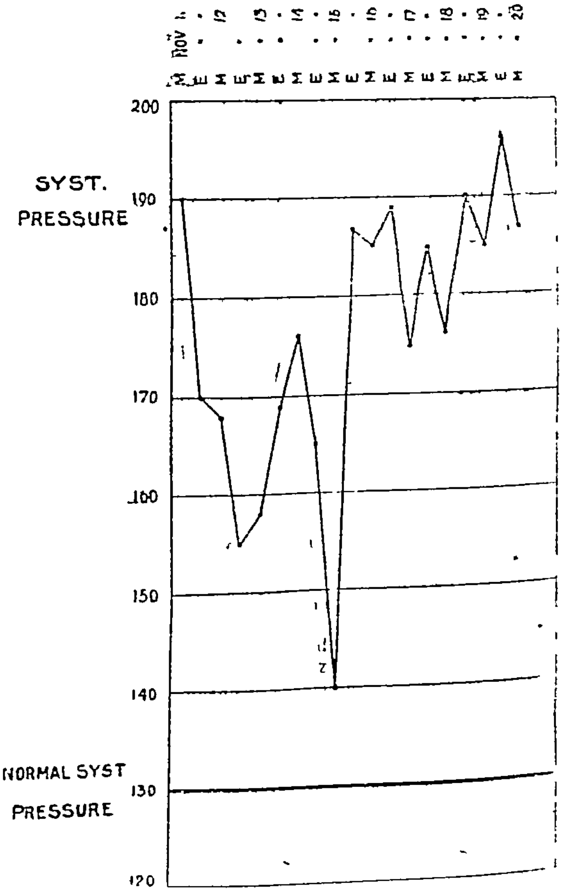


A man, aged 80 years, uræmia.

CASE 3 (*vide* Chart 5).—A lad, aged 17 years, was admitted for albuminuria and slight œdema of the legs He had had scarlet fever three years previously and six months later his legs began to swell and had remained swollen ever since. The first sound at the apex was booming in character and the aortic second sound was accentuated; the vessels of the arms were more rigid than usual. He passed from 22 to 70 ounces of urine daily; it was of specific gravity 1005 to 1015 and contained albumin from 0·16 to 0·3 per cent. He was discharged feeling much better and the dropsy had disappeared.

CASE 4.—A man, aged 69 years, was admitted for sensory aphasia of some months' duration; there was no associated hemiplegia. Rigidity of the vessels was very marked; the aortic second sound was accentuated and there was 0·1 per cent. of albumin in the urine; he passed from 26 to 53 ounces daily. The temperature was normal. His systolic blood pressure was constantly above 160 millimetres and reached as much as 184 millimetres. His only complaint was the aphasia and he was ultimately discharged.

CHART 4.

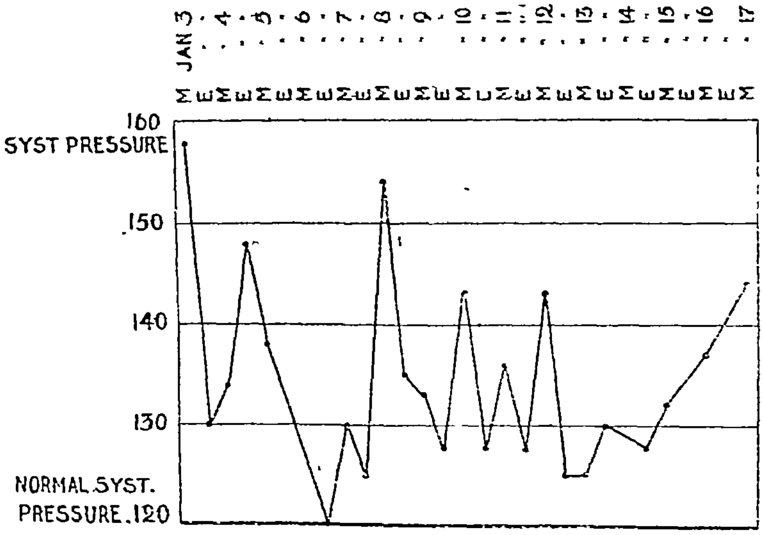


A man, aged 41 years; acute Bright's disease.

CASE 5.—A man, aged 21 years, was admitted for severe dyspnœa and orthopnœa; there was œdema of the lower extremities which increased till death supervened. The amount of urine passed varied from 30 to 70 ounces and gradually was diminished to 6 or 12 ounces; it was of specific gravity from 1010 to 1020; the albumin varied from 0·4 to 1·5 per cent. The blood-vessels were not abnormally tortuous or hardened; there was no marked accentuation of the aortic second sound; the temperature was normal. The blood pressure varied from 125 to 144 millimetres and towards the end underwent rapid diminution, becoming subnormal; the dyspnœa intensified till death.

At the post-mortem examination the heart was found to be greatly enlarged and dilated, weighing 19 ounces. The kidneys gave evidence of being much tougher than usual; they weighed seven ounces each.

CHART 5



A lad, aged 17 years, chronic Bright's disease (? contracted kidney)

CASE 6.—A man, aged 43 years, was admitted suffering from uræmia. He was dyspnœic and had a pulse-rate of from 23 to 34 beats per minute; the temperature was normal. The brachial blood-vessels were markedly thickened and tortuous. Only 20 ounces of urine were passed during the 25 hours he survived. It was loaded with albumin and casts were abundant. Five blood pressure observations showed 160, 140, 162, 163 millimetres, and the last taken at 12 midday was 160 millimetres. At 1 o'clock the pulse could not be felt and at 1 30 P M the patient died.

At the post-mortem examination the heart weighed 27 ounces; the left ventricle especially was greatly dilated and hypertrophied; the coronary arteries and aorta were atheromatous and the limb vessels were thickened. The kidneys weighed six ounces each, the capsule stripped off readily; the cortex was one eighth of an inch in depth; the renal arteries were thickened and atheromatous.

CASE 7.—A man, aged 32 years, was admitted with uræmic dyspnœa and almost complete suppression of urine—only four ounces in two days. Albumin, blood, and casts were present in the urine and the patient was slightly œdematous in the lower extremities, had diarrhœa and sickness, and there was also some fever. The maximum impulse of the heart was in the fifth space, external to the nipple line; the second aortic sound was accentuated. Four observations were made on the blood pressure: Oct. 30th, evening, 187 millimetres; Oct. 31st, morning, 167 millimetres; evening, 162 millimetres; and Nov. 1st, at 10 A M, 88 millimetres. Death occurred seven hours later.

At the post-mortem examination the kidneys were found to be red, granular, and contracted, and contained cysts; the cortex was greatly reduced; each kidney weighed four ounces; the renal vessels were narrowed. The heart weighed 14 ounces; the coronary arteries were fairly healthy; there was very little atheroma in the aorta or vessels of the limbs.

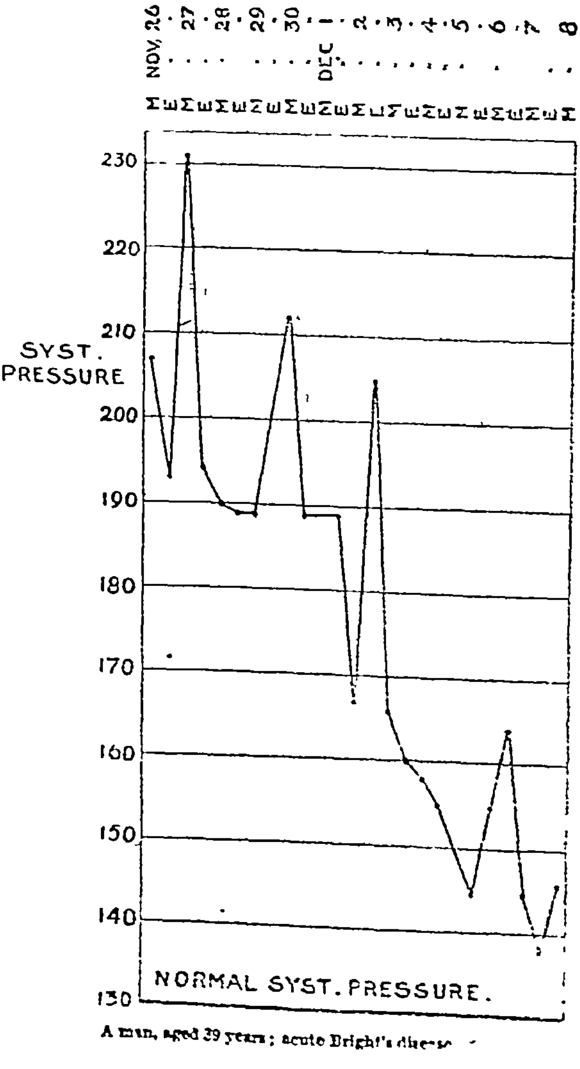
CASE 8 (*vide* Chart 6).—The patient was a man, aged 39 years. He was admitted for headache and sickness; he had also had puffiness of the feet for three weeks. The urine was albuminous but there was no sign of arterial disease and the heart revealed no signs of hypertrophy. The temperature was normal. The symptoms gradually abated and he was discharged. The chart shows the elevation and gradual fall of the blood pressure in acute Bright's disease.

CASE 9 (*vide* Chart 7).—A married woman, aged 41 years, was admitted for headache, œdema of the ankles, and albuminuria. There were no signs of cardio-vascular disease. There was some fever. The urine varied from 15 to 43 ounces daily; it was of specific gravity from 1013 to 1028. Albumin varied from 0 12 to 0·20 per cent. The blood pressure varied, falling during her stay in the hospital but rising above normal again prior to her discharge.

CASE 10 (*vide* Chart 8).—A man, aged 43 years, was admitted for pains in the chest and headache and for some dropsy in the feet. He had had a similar illness three years previously and had passed blood in his urine. There were no marked changes in the cardio-vascular system. The urine varied from 47 to 92 ounces; on three days it was, however, much less—10, 20, and 18 ounces respectively; it was of specific gravity from 1010 to 1027. On admission he was passing 0·33 per cent. of albumin but on his discharge there was only a trace; blood was passed on several occasions. There was a copious deposit of casts on admission. He developed severe uræmia with convulsions and was bled and infused. He left the hospital quite free from symptoms.

CASE 11 (*vide* Chart 9).—A man, aged 55 years, was admitted for extensive lead palsy and was found to have a blood pressure which ranged from 155 to 177 millimetres. This gradually subsided to normal. The arteries were very tortuous and the second aortic sound was accentuated; the maximum impulse of the heart was obscured by emphysema. The specific gravity of the urine was from 1015 to 1022; a slight trace of albumin was present. He was discharged relieved to a certain extent.

CHART 6.



A man, aged 39 years; acute Bright's disease

Schryver, who pointed out to me a certain period subsequent to the removal of tissues from animals in which the tissues do not undergo chemical change. An appeal, therefore, was made to the effects of fresh tissues removed from a cat and after preparation injected into another.

Mode of preparation.—An animal was killed under an anæsthetic and with aseptic precautions the liver, the kidneys, the brain, the spleen, &c., were removed. The kidneys were stripped of their capsules, then split, and as much as possible of the pelvis and the neighbouring vessels were removed; the bile duct and gall-bladder were cut away from the liver and all the organs were washed in sterile saline solution. So much of each organ was weighed out in grammes and to it were added three times the number of cubic centimetres of sterilised salt solution; this was then ground up with a small quantity of white sand which had been sterilised and washed in saline solution. After the preparation was thoroughly macerated it was pressed through fine meshed sieves, thus completing the disintegration of the organ. The preparation was then centrifugalised and filtered through coarse filter paper. The filtrate now took the form of a fine emulsion and showed microscopically many fine granules of varying size. The preparations were injected into other cats, as a rule from within two to four hours, and in one case not for 12 hours, the preparation having been kept in an ice-box at from 6° to 10° C. The anæsthetic used was ether in every case and care was taken without the aid of morphine or curari to secure deep anæsthesia. The ether was administered through a cannula inserted in the trachea in the latter part of each experiment. The blood pressure was recorded from the right carotid artery. A cannula was tied into the right femoral vein for the purpose of injecting the extracts.

TABLE IV.—SHOWING PRESSOR OR DEPRESSOR EFFECTS FOLLOWING INTRAVENOUS INJECTIONS OF EXTRACTS OF FRESH ORGANS.

No. of experiment.	Date.	Weight of kymograph animal in grammes.	Weight of animal from which organs were removed.	Anæsthetic, &c.	Nature of extract.	Amount and order of injection of extract of different organs.	c.cm.	Average maximum pressure immediately before injection. mm.	Effect on pressure. Rise (+) or fall (−) in millimetres of mercury.	Duration of observation of rise or fall.	Remarks.
22	Jan. 23rd, 1906.	3525	—	Ether. Spontaneous respiration.	Saline emulsion 1 in 3. Used within 4 hours of removal.	Spleen	6	123	+ 18·0	45"	*Between the first and second injections of liver extract suprarenal extract had been injected.
						Muscle	6	122	− 38·0	4' 25"	
						Kidney	6	122	+ 72·0	7' 13" at least.	
						Liver	6	144	− 16·0	2' 50" „	
						Liver*	6	180	− 14·0	45" „	
						Kidney	6	168	+ 24·0	4' 35" „	
						Spleen	6	183	+ 2·0	10" „	
25	Jan. 25th, 1906.	—	—		Saline emulsion, 1 in 3. Used within 12 hours of removal. Kept at 8° C	Spleen	6	140	− 5·0	4"	
						Liver	6	142	− 9·0	55" at least.	
						Blood	6	136	+ 3·0	4' 3" „	
						Kidney*	6	136	+ 30·0	30" „	*Kidney rise preceded by fall of 22 mm.
						Liver	6	166	− 7·0	4' 30" at least.	
						Kidney*	6	144	+ 35·0	30" „	*Kidney rise preceded by fall of 32 mm.
						Liver	6	176	− 6·0	30" „	
						Kidney*	6	170	+ 10·0	5' „	*Kidney rise preceded by fall of 30 mm.
						Animal's own urine	6	178	− 78·0	2' 50" „	
29	Jan. 31st, 1906.	3600	2716	„ „	Saline emulsion, 1 in 3. Used 2 hours after removal.	Liver	6	165	+ 6·0	30"	
						Normal kidney* ... (19·25 grammes.)	6	160	+ 6·0	1' 50"	*A fall was noticed immediately after injection of kidney extract, which was greater in the case of the healthy than in the scarred organ, probably owing to the presence of more urine.
						Scarred kidney ... (8·2 grammes.)	6	154	+ 24·0	3' 50" at least.	
						Normal kidney ...	6	178	+ 2·0	15"	
						Scarred kidney ...	6	162	+ 10·0	2' 30" at least	
						Liver	6	162	− 22·0	45"	
						Normal kidney ...	6	130	+ 14·0	2' at least.	
						Scarred kidney ...	6	136	+ 10·0	40"	
31	Feb. 2nd, 1906.	3580	2660	„ „	Saline emulsion, 1 in 3. Used 2 to 3 hours after removal.	Muscle	6	104	− 4·0	1' 5"	—
						Kidney	6	100	+ 30·0	5' 50"	
						Kidney	6	130	− 24·0	55"	
						Liver	6	132	− 8·0	1' 35"	
						Brain	6	122	+ 2·0	5"	
32	Feb. 6th, 1906.	2750	2560	„ „	Saline emulsion, 1 in 3. Used 2 to 3 hours after removal.	Liver	6	184	− 8·0	10"	*A fourth injection of 12 cubic centimetres of kidney extract gave only a slight rise and a fifth of 6 cubic centimetres none at all.
						Brain	5	174	− 11·0	20"	
						Kidney	6	160	+ 40·0	13' 40" at least.	
						Brain	6	192	− 18·0	50"	
						Brain	6	184	− 11·0	20"	
						Kidney	6	158	+ 16·0	7' 30" at least.	
						Liver	6	162	− 6·0	20"	
						Spleen	4	155	+ 3·0	30"	
						Kidney*	6	130	+ 16·0	1' 30" at least.	
33A	Feb 8th, 1906.	3510	3220	„ „	Saline emulsion, 1 in 3, used within 2 to 3 hours.	Spleen	4	162	− 6·0	1-2"	—
						Brain	6	160	− 12·0	25	
						Kidney	3	145	+ 22·0	3' 40" at least	

In Experiment 29 reference is made to the effects of normal kidney and to sclerosed kidney. This interesting condition is comparable to the specimens referred to in the beginning of the lecture in which one kidney was found to be atrophied as a result of atheroma of the renal artery, the other kidney being much larger than normal. In the case of the cat, the renal artery of the scarred organ was found to be much smaller than that of the healthy kidney.

The first series of experiments carried out in the above way included those animals in which several different tissue extracts were injected into the same animal; the order of injection is given in Table IV.; the series consisted of eight experiments carried out on eight animals—Nos. 12, 22, 23, 25, 29, 31, 32, and 33 A. No records of the experiments Nos. 12 and 23 are given; No. 12 was a curious example in which the animal failed to show any reaction—pressor or depressor—on the injection of any tissue or of saline solution alone. No. 23 was an example of an animal in whom the respiration was so irregular, quite apart from injection of material, that no attempt was made to carry out complete experiments. There are therefore six experiments left for consideration. The effects of injection of different organs upon the blood pressure have been tabulated and the analysis of the spleen and muscle effects shows that injection of spleen gave a rise of pressure on three occasions of 18 millimetres, two millimetres, and three millimetres, lasting respectively 45 seconds, 10 seconds, and 30 seconds; a fall occurred in two cases of four millimetres, lasting from one to two seconds, and of 6 millimetres, lasting four seconds. Injection of muscle extract was practised twice; in one there was a marked fall of 38 millimetres lasting four minutes 28 seconds, and in the other a fall of only four millimetres, lasting one minute 55 seconds. The observations on the kidney, the liver, and the brain were more numerous and are tabulated according to whether they caused a rise or fall (Tables V. and VI.).

TABLE V.—*Showing Rise of Pressure after Injection of Various Extracts.*

Experiment.	Maximum.	Duration.
	Kidney.	
22	72 mm.	7' 13"
	24 ,,	4' 35"
25	30 ,,	35"
	35 ,,	30"
	10 ,,	5
29	6 ,,	1' 50"
	24 ,,	3 50"
	2 ,,	15"
	10 ,,	2 30"
	14 ,,	2' 0"
	10 ,,	40
31	30 ,,	5' 50"
	Kidney (continued).	
32	40 mm.	13' 40"
	16 ,,	7' 30"
	16 ,,	1' 30"
33A	22 ,,	3 40"
	4 ,,	1' 40"
	1 ,,	25"
	Liver.	
29	6 mm.	30"
	Brain.	
31	2 mm.	Few seconds.

TABLE VI.—*Showing Fall of Pressure after Injecting Various Extracts.*

Experiment	Maximum.	Duration.
	Kidney.	
31	24 mm.	55"
	Liver.	
22	16 mm.	2' 50"
	14 ,,	45"
25	9 ,,	55"
	7 ,,	4' 30
	6 ,,	30"
29	6 ,,	30"
	22 ,,	45"
	Liver (continued)	
32	8 mm.	10"
	6 ,,	20"
	8 ,,	1' 30"
	Brain.	
32	11 mm.	20"
	18 ,,	50"
	11 ,,	20"
33A	12 ,,	25"

In Tables V and VI. the heading "Maximum" means the highest or lowest maximum point the blood pressure reached respectively during the interval in which rise or fall occurred. The duration in Table IX. is qualified in many cases by the words "at least" because it was necessary in these cases to stop the kymograph and so economise tracing paper in order to get the whole series on one tracing.

It is obvious that though other organs than the kidney occasionally show a rise of pressure on injection, yet the rise is small and of short duration; whereas the kidney effect of a rise, though varying within considerable limits, is a striking feature, and the same may be said of the duration in which such rise takes place; no other organ has been noticed to have such an effect so frequently. The liver and brain show a much greater tendency to cause a fall of blood pressure and even then such fall is generally of very brief duration. One point to which it is necessary to draw attention is that in none of these experiments was the kidney extract injected first; the injection always succeeded that of some other organ and it may be objected that it is possible that the rise of pressure following the injection of renal extract is due to some interaction of renal extract with some previous extract. Moreover, it may be thought that the renal extract is of a different physical character and likely to cause a rise of pressure from some mechanical effect dependent upon the granules contained in the emulsion. As will be seen later, there is no reason to believe that either of these objections holds good. It is to be observed once again that these animals were simply under the influence of ether; this was so carefully administered that the respiration was maintained regularly. In another experiment, 33B, with ether anæsthesia and artificial respiration, the vagi were cut; an injection of renal extract then produced the exceedingly small rise of only four or one millimetre, lasting one minute 40 seconds and 25 seconds respectively. So far as this one experiment is concerned it must be stated that the second injection of an extract has on other occasions shown a less marked reaction than the first one. The slight rise, such as it is, merely suggests that the rise of pressure on injecting renal extract is due to a peripheral effect whereby the arterial pressure is raised.

A CASE OF

PRIMARY INTESTINAL ANTHRAX IN MAN; SEPTICÆMIA; HÆMORRHAGIC LEPTO-MENINGITIS.[1]

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THE following case of anthrax is of interest from several points of view. It appears to be an example of that form of the disease which is the most common in animals but the rarest in man—viz., that in which infection occurs through the alimentary canal. The infection was extremely virulent and the course of the disease was correspondingly rapid, the whole known duration of the illness being 20 hours. There was nothing in connexion with the occupation of the patient to suggest anthrax and the symptoms gave no clue to the nature of the disease Until the hæmorrhagic condition of the meninges was revealed at the post-mortem examination anthrax was never suspected. Moreover, the case appears to have been completely isolated and all investigations subsequently undertaken have failed either to reveal the source of the infection or to bring to light other cases of the disease in man or animals in the neighbourhood of the present one.

Clinical history by DR. ROBERT BELL.—A man, aged 36 years, was admitted to Ward 12 of the Western Infirmary, Glasgow, at 11.15 P.M. on Jan. 31st, 1905, in a semi-conscious and delirious state. According to the account of his friends he was to all appearance in perfect health until the morning of the day of his admission, when he rose with the intention of going to work but returned to bed because he felt giddy and had a headache. The headache he described as a pain beginning behind and shooting over to the forehead, while occasionally he complained of pain in the region of his right ear and right eye. He remained in bed all day and took a little light food, and he appeared to be not at all seriously ill. About 7 P.M., however, his friends heard him give a cry and went to the bed room, where they found him out of bed, very restless and excited, and talking in an unintelligible manner. He would not reply to any questions but would rise suddenly, go and sit down by the fire, holding his head and moaning, and then as suddenly he would jump into his bed again and would lie huddled up. This restlessness and excitement he showed in an increasing degree up to the time of his admission. The patient worked at the making of white lead in a paint manufactory. The people with whom he lodged had known him for five years and he had been an exceptionally strong and healthy man. They stated that he had not been a heavy drinker but he occasionally had a bout of two or three days' duration, after which he would be steady for some weeks When seen in the receiving room at 11.5 P.M. he was being held in a chair by three or four men so violent were his struggles. On admission to Ward 12 he seemed unconscious but if spoken to loudly he opened his eyes and looked about. If left to himself he lay huddled up with his legs and knees drawn tightly up and flexed upon the abdomen, his arms thrown across the chest, and his head bent with the chin on the sternum. But if any attempt were made to move him or rouse him he struggled violently and occasionally gave a low sighing moan. The pupils were moderately dilated and reacted sluggishly to light; they were equal. The teeth were tightly closed and could not be opened. On the gums there seemed to be a suspicion of a blue line. Respiration was easy and quiet, 24 per minute. The pulse was small, wiry, 90 per minute. The temperature was 98·4° F.

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[1] Communicated to the Glasgow Pathological and Clinical Society in March, 1905.

Physical examination was difficult owing to the struggles of the patient on any attempt being made to move him. The knee-jerks could not be elicited and neither paralysis nor paresis was anywhere discovered. Examination of the lungs, the heart, and the abdomen revealed little except that he winced when comparatively slight pressure was made over the epigastrium and in the region of the umbilicus. There was no abdominal distension. No discharge was present from the ears or nose and there was no sign of conjunctival hæmorrhage. There was no evidence of injury of any kind. At 3 P.M. on Feb. 1st he began to have convulsions. The face was first thrown into contortions—both sides apparently equally. These then passed to the left arm, then to the left leg, and rapidly became general. In the convulsions the pupils became somewhat dilated. The urine drawn off by catheter was of specific gravity 1042 and contained sugar—a distinct reaction being obtained with Fehling's solution—and a considerable quantity of albumin. Four convulsive seizures occurred before death, the interval between successive seizures being short. In the last the pupils became contracted and fixed and the patient died immediately the convulsion ceased at 3.30 P.M.

Post-mortem examination.—This was made 31 hours after death. The body was that of a strongly built muscular man. Rigor mortis was well developed. The face and neck and posterior parts of the body showed considerable lividity. There was no external mark of injury or disease. As regards the thorax the mediastinal connective tissues were very œdematous. In the anterior mediastinum, just above the pericardium, there was a large and soft lymphatic gland. In section this was seen to be inflamed with hæmorrhages here and there; it showed a moderate degree of carbonaceous pigmentation. Other mediastinal glands behind this were noticed to be fairly large and hæmorrhagic. The heart was very flaccid and the muscle was soft and pale in colour. There was a considerable amount of blood-staining under the endocardium. There was no valvular lesion or defect. Each pleural cavity contained about ten ounces of clear serous (not bloody) fluid. The lungs were free from pleural adhesions; there was no condition of the lung substance which calls for note. The mucous membrane of the larynx, trachea, and large bronchi was intensely congested but no swelling, ulcerations, or hæmorrhagic patches were found. The tongue, the fauces, and the œsophagus were also very congested and the papillæ and masses of lymphoid tissue about the root of the tongue were swollen, but there were no hæmorrhagic patches and no erosions. The peritoneal cavity contained about ten ounces of yellowish turbid fluid. There was little appearance of general acute peritonitis but there was some dulness of the surface of the intestine here and there and several small hæmorrhagic areas in the small intestine. The largest of these was situated about four feet from the pylorus; it lay for the most part to one side of the mesenteric attachment; its deep red surface was flecked with yellow fibrinous material, and it appeared to be the centre from which an early acute general peritonitis was arising. The intestines as a whole were œdematous. Internally corresponding to the hæmorrhagic patches noted externally were hæmorrhagic areas surrounded by zones of intense congestion. The largest of these, corresponding to the principal lesion above described, was ulcerated in the centre. It was extensively infiltrated with blood but presented no feature by which it could be specifically designated, having, for example, no resemblance to a typhoid lesion; it was of quite recent acute character. This lesion measured about five centimetres in diameter and faded off gradually into the surrounding pale, œdematous mucous membrane. The central parts were almost black from extravasation of blood and in the very centre, just to one side of the mesenteric attachment, the intestinal wall appeared to be necrotic and on the point of perforation. A streak of intense congestion, studded with swollen, hæmorrhagic, lymphatic glands, extended from this to the root of the mesentery. Lower down were several smaller patches of similar character. The central spot in them had the appearance of a minute abscess but on cutting with the point of the knife it appeared to be a small slough with thick purulent fluid round about it. There was scarcely any alteration of the mesentery in the neighbourhood of these smaller lesions. The stomach was congested and near the pylorus were three small hæmorrhagic patches with rather elevated pustule-like centres about three millimetres in diameter. The liver weighed 65 ounces. It was very soft and pale from cloudy swelling. The spleen was considerably enlarged, very soft, and congested; it appeared to be septic in character. All details of structure in the pulp were blotted out and it flowed out in the form of a thick chocolate-coloured liquid. The kidneys were rather small but without irregularity of the surface; the cortex was thin and it was pale from cloudy swelling. As regards the head the dura mater was of normal appearance. The superior longitudinal sinus was empty of blood; it contained no thrombi. The cerebral hemispheres on both sides showed extensive and diffuse pia-arachnoid hæmorrhage. This was most marked over the vertex and rather more on the left than on the right side. There was also much blood over the surface of the cerebellum. On the lower surface of the cerebrum some hæmorrhage was present but very much less than over the vertex. There was also blood in small amount over the pons Varolii, medulla oblongata, and upper part of the spinal cord. The ventricles contained no abnormal amount of fluid; the choroid plexuses showed no hæmorrhage. The substance of the brain presented no abnormality but in the sulci of the cerebrum and cerebellum there was hæmorrhage, just as in the pia-arachnoid of the surface. The layer of blood, even where most abundant, was quite thin, the convolutions shining out quite clearly through it between the blood-filled sulci.

Up to the opening of the dura mater the case presented the appearance of some acute septic condition, to the exact nature of which there was as yet no clue. There was no evidence in favour of traumatic origin of the pia-arachnoid hæmorrhage. Professor R. Muir, who made the examination, considered the case to be one of septicæmia and asked me to examine the meningeal fluid. Having previously known of the association of meningeal hæmorrhage with anthrax I mentioned that it might be of this nature and this surmise was confirmed by my microscopical examination. The case was then treated as one of anthrax and precautions were taken to prevent infection of the staff and students who were attending the demonstration. The city sanitary authorities also received notification. Dr. A. K. Chalmers, medical officer of health of the city of Glasgow, placed the case in the hands of Dr. J. R. Currie, who made a thorough investigation of all the circumstances of the occupation, surroundings, and recent movements of the patient. Dr. R. M. Buchanan, city bacteriologist, made bacteriological examinations of all materials which might have carried infection, including bedding, clothing, handkerchiefs, and the tallow, waste, linseed oil, and tan used in his work, all with negative results. Trade and the ordinary casual sources of infection appeared to be excluded.

The nature of the case naturally directed attention to the possibility of food infection and milk and meat of which he was known to have partaken were examined and traced to farms or the meat market. No cases of anthrax could be traced at any of the farms but on one farm from which sheep were supplied several animals had recently died from some unnamed disease. All the carcasses to which suspicion could be attached had been passed by the inspector. In the opinion of Dr. Currie, the exclusion of other sources of infection, however, gives a certain degree of probability to the belief that an anthrax-containing carcass had been used for food in Glasgow at the time when this man contracted his fatal illness. Suspicion was directed to steak and to a pie of which he was known to have partaken along with others who did not suffer, but no sure evidence of infection could be obtained. There are many examples of anthrax carcasses having been consumed without a single case resulting. The organisms in the interior of meat are in the form of the bacilli which would in all probability be destroyed by the gastric juice. Spores, on the other hand, would escape destruction in the stomach, and it is most probable that the patient in this case had swallowed a dose of spores. The formation of spores might occur on meat which had lain for some time after being cut and imperfect cooking of such meat would permit their survival.

Film preparations from various organs were made and stained with thionin blue and by Gram's method. The fluid from the meninges contained, besides the red blood corpuscles and polymorpho- and mono-nuclear cells, large numbers of organisms having the morphological characters and staining properties of anthrax bacilli, diplococci, which were occasionally arranged in short chains, long thin bacilli and short bacilli with polar staining, the last two being Gram-negative organisms. Anthrax bacilli were not found in the film prepared from the mediastinal glands at first, but six hours later the fluid which had exuded from them was examined and was then found to contain numerous anthrax bacilli. Anthrax bacilli were also found in the films from the spleen, mesenteric gland, and intestinal lesion, as a rule accompanied by diplococci and streptococci. There was no trace of spore formation. The peritoneal exudate from near the largest intestinal lesion consisted of polymorphonuclear leucocytes and shed endothelium; it contained numerous streptococci but anthrax bacilli were not found. Apparently the lesion was virtually a perforation through which streptococci had reached the peritoneal cavity but not anthrax bacilli.

Cultures on agar and gelatin were made from the fluid in the meninges over the upper surface of the cerebrum and from the spleen. From the former were isolated the anthrax bacillus, diplococci resembling the pneumococcus, streptococci, a bacillus of the bacillus coli communis group, and an organism of about the same size, of oval form, showing distinct polar staining with thionin blue and decolourising by Gram's method. From the spleen the bacillus of anthrax, diplococci, and streptococci were obtained. Pure cultures were obtained of all but the organism with the polar staining. This was clearly not anaerobic as it was recognised in plate culture, but the agar-slope culture supposed to be taken from the colony grew only an organism resembling bacillus coli communis. The anthrax bacillus was submitted to the usual tests and gave quite characteristic growths in the different media.

The bloody fluid from the meninges diluted with sterile saline solution was injected in the skin of the abdomen of two guinea-pigs and into the auricular vein of a rabbit. 18 hours later the guinea-pigs were still fairly lively although undoubtedly ill, and the first died 21 hours after receiving the injection. There was some œdema without hæmorrhage around the seat of injection. The fluid contained swarms of diplococci with capsules and a certain number of anthrax bacilli. The peritoneal cavity contained a large amount of clear fluid in which were found a few mononuclear cells and large numbers of anthrax bacilli. The heart blood contained a few anthrax bacilli; the spleen contained anthrax bacilli and diplococci. The second guinea pig died four hours later. Round the seat of injection there were very marked œdema and hæmorrhage. Films contained some diplococci, a fair number of anthrax bacilli, and immense numbers of oval bacilli with distinct polar staining like the plague bacillus. No organisms were found in the blood or peritoneal fluid. The internal organs in general appeared healthy. Again the organism with polar staining was not isolated, the cultures yielding only the anthrax bacillus, cocci, and an organism of the colon group. The rabbit appeared fairly well at the end of the third day, but on the following morning it was found dead although still warm. The blood contained anthrax bacilli in considerable numbers and a few diplococci like pneumococci, and the organs swarmed with anthrax bacilli. Cultures yielded only anthrax. A third guinea-pig was inoculated from a subculture of this and it died from characteristic anthrax septicæmia in about 30 hours and pure cultures of the bacillus were recovered from the blood. Guinea-pigs were also inoculated with cultures of the streptococci from the spleen and diplococci from the meninges, but these hardly produced even a local reaction. It is therefore clear that the infection was true anthrax of a very virulent type and that while other organisms were present the anthrax bacilli were the principal pathogenic agents. The peritonitis in the patient demonstrated that the streptococci possessed some virulence and it appears probable that the other organisms also had pathogenic properties, the extraordinary numbers of the oval organism in the subcutaneous tissue of the second guinea-pig, which died without blood infection, being very suggestive as regards that particular organism.

Histology.—Sections were prepared from the stomach, intestines, spleen, mediastinal and mesenteric lymph glands, kidney, cerebrum, cerebellum, and root of the tongue. Unfortunately the liver and lungs were removed before portions had been taken for microscopical examination and could not be recovered. The microscopical examination confirmed the impression that the large lesion of the intestine above described was the principal seat of infection. The smaller spots in the intestine presented the character of small pustules, with necrosis of a central area from three to five millimetres in diameter involving little more than the mucous membrane and resting on a bed of polymorphonuclear leucocytes, which infiltrated the submucous and muscular coats throughout a relatively wide area. Wherever the leucocytes were found there were also anthrax bacilli in considerable numbers. The surface of the sloughing centre was crusted with organisms of various kinds. The large lesions presented a more advanced stage of a similar condition. The area of necrosis of the mucous membrane was quite small and infiltration of this coat by leucocytes or anthrax bacilli was confined practically to the necrotic centre, but intense congestion with more or less extravasation of blood was observed throughout a wide area round about it. The necrotic patches were situated on the edge of the valvulæ conniventes. The infective process, on the other hand, had spread widely in the submucous tissues and in the planes of tissue between the muscle bundles through to the subperitoneal layer. The peritoneal membrane was very ill defined in the sections. There had clearly been emigration of leucocytes beyond it and while no anthrax bacilli were recognised in the peritoneal exudate either in films or sections, streptococci were found in it in abundance and the anthrax organisms were seen in the subperitoneal tissue. This was the case even in the smaller lesions, which appeared to be nearing perforation, while the larger was in effect a perforation. The intestinal wall was swollen and its tissues were opened up by extravasation of blood and accumulation of leucocytes and necrosis of considerable extent had taken place. In the necrosed tissues very little could be made out of tissues or organisms, but in the surrounding tissues there was great accumulation of anthrax and other organisms. No anthrax bacilli had been observed within the blood-vessels in the wall of the intestines or in the vessels of the adjacent mesentery. The blood-vessels were so distended and packed with blood as to convey the impression that stasis of the circulation had occurred, but there was, as a rule, no sign of actual thrombosis within them. The walls of the vessels had a swollen hyaline appearance and the nuclei appeared to be reduced in number and stained badly as if they had been undergoing necrosis.

The sections of mesentery were taken from the part related to the largest lesion but beyond the first line of lymphatic glands. In them it was found to be deeply congested and swollen, its tissues extremely œdematous, hyaline, and breaking down in parts and infiltrated with enormous numbers of polymorphonuclear leucocytes, among which anthrax bacilli were found in small numbers. The mesenteric glands, even to the root of the mesentery, were swollen, necrotic in parts, and infiltrated with blood and polymorphonuclear leucocytes to an extent which obscures their proper structure. Anthrax bacilli were present in immense numbers, especially near the capsule, along with other organisms, of which streptococci were the most numerous.

The lesions in the stomach proved to be very small aggregations of leucocytes lying for the most part deep in the mucosa, surrounded by a zone of congestion. Anthrax bacilli, however, were found in them in considerable number. The spleen was so much distended with blood and polymorphonuclear leucocytes that the normal structure was hardly recognisable. The fine trabecular tissue of the pulp and the walls of small vessels were hyaline or broken down and the endothelium was shed and lay mixed with the blood and other cells. The Malpighian bodies could hardly be distinguished, the lymphoid tissue being for the most part replaced by large round cells with large vesicular nuclei and polymorphonuclear leucocytes clustering around the vessel. Phagocytosis by the large cells was not made out. Anthrax bacilli were present in considerable numbers in the blood and among the cells, and there were also some streptococci, as a rule in colonies. The swollen root of the tongue showed great congestion and a few streptococci in the lymphoid follicles but no anthrax bacilli. Several of these, however, were found in the widely dilated blood-vessels.

The supposed large mediastinal gland proved on section to be a mass of glands bound together by œdematous, blood-infiltrated, areolar and adipose tissues. The lymphatic and other tissues were overrun with polymorphonuclear leucocytes and broken up by hæmorrhage. Patches of necrosis were seen in all the tissues. Anthrax bacilli were found with difficulty but streptococci were present in large numbers, many of them occupying dilated blood-vessels. There was also much carbonaceous pigment, indicating that it lay in the drainage system of the lungs. In view of the loss of the lungs this condition is of importance, the contrast between these glands and the mesenteric glands in respect to the presence of anthrax bacilli confirming the naked-eye impression that the lungs and bronchi were free from primary anthrax lesion.

The kidneys, in spite of their comparatively normal appearance to the naked eye, were the seat of most profound changes. The epithelium of the convoluted tubules was entirely necrotic and so swollen as to occupy practically the whole lumen of the tubules; that of the straight tubules was more or less swollen and shed but not necrotic. Many of the basement membranes were swollen and hyaline. The glomeruli presented no sign of the acute disease beyond some hyaline change. A very few anthrax bacilli were found in them and in blood-vessels. There was distinct evidence of an old interstitial nephritis in increase of connective tissue and some sclerosis of glomeruli. The blood-vessels, especially in the pyramids, were distended with blood and there was a little extravasation in places.

The sections of the brain showed that the hæmorrhage had occurred in the pia arachnoid. There was for the most part no layer of blood such as has been described in cases of longer duration and was seen by me in sections from a case in Vienna, but the whole thickness of the pia-arachnoid was more or less opened up by the escaped blood which occupied its interstices and also in places separated its deep surface from the brain. In some sections, however, the layer of blood was thicker and more homogeneous. Over the convolutions *the pia-arachnoid was only from a quarter to* one millimetre thick, but the quantity of effused blood was greater in the sulci. To the naked eye the subdural space appeared quite free from blood, but in some parts of the sections a layer of leucocytes mixed with some red corpuscles was found lying apparently on the surface of the pia-arachnoid. The inflammatory character of this exudate was of interest because in many parts of the pia-arachnoid the condition had the character of a diffuse hæmorrhage rather than a hæmorrhagic meningitis, the polymorphonuclear leucocytes and free-lying mononuclear cells being scarcely more numerous in the extravasated blood than in that within the vessels, and there being no leucocytic exudation in the tissues There were, however, some masses of older blood clot and thrombus with fibrin network in which polymorphonuclear leucocytes were present in large numbers. In places, also, one found considerable collections of polymorphonuclear leucocytes in the pia-arachnoid, especially in its deepest layer. The anthrax bacilli were found in very small numbers in the exudate on the free surface of the pia-arachnoid but in immense numbers within that membrane. They were perhaps most numerous in the leucocyte-infiltrated tissues and in the older masses of blood, but they were also present in large numbers in areas of connective tissue which showed no reaction of this kind. The numbers in the extravasated blood varied, being small in some of the largest and most recent-looking extravasations, and in the blood which was within the vessels there were very few, although in some vessels several might be seen. The bacilli were also fairly numerous in the external coats of blood-vessels of the pia mater, sometimes forming a distinct pale blue ring around them. The blood-vessels of the pia mater were widely dilated and the walls presented hyaline changes and shedding of the endothelium; those of the veins and smaller vessels were in many cases necrotic and actually broken down. The brain substance was comparatively little affected; there were some œdema and disintegration of the superficial tissues where the blood had passed between it and the membranes; the chromatic granules were as well preserved as they are ordinarily found 30 hours after death; there was almost no extension of the hæmorrhage along the fine nutrient vessels of the cortex and the bacterial invasion of these vessels and their lymph spaces was practically coextensive with the hæmorrhage While no hæmorrhage in the substance of the brain was recognised with the naked eye the sections revealed a number of minute hæmorrhages deep in the cortex. The extreme dilatation of the medium-size vessels appeared to be the first stage of this, the wall finally disintegrating and the blood escaping to the surrounding lymph space or invading the soft brain substance. Anthrax bacilli were found only in two or three of the dilated vessels or the most recent hæmorrhages, although a large number were searched for them, but they appeared in considerable numbers in several of the hæmorrhages which were of somewhat larger size.

The organisms discovered in the films—viz., diplococci, bacilli like bacillus coli communis and oval bacilli with polar staining, long thin bacilli with terminal spores and a few [illegible]ts, were recognised in the sections, but by far the most numerous organism was the anthrax bacillus. A number of fragments of columnar epithelium were also found in the extravasated blood—a condition which is discussed below. The condition in the cerebellar was similar to that in the cerebral meninges but less advanced; here also it was most marked in the sulci.

The condition thus is clearly a hæmorrhagic meningitis in which, however, the inflammatory reaction in the ordinary sense is but little developed, probably on account of the extreme violence of the irritant.

The case then presents the appearance of an extremely violent attack of internal anthrax. Such cases, so rapidly fatal, are described by Bell[2] as not infrequent in pulmonary anthrax (wool-sorters' disease). The patients apparently receive a large dose of virulent anthrax bacilli or spores which constitute an invading force so overwhelming that they collapse almost without a sign of resistance. The actual illness may last a shorter time even than in the present case, and the total period from the contact with the infected material which is blamed may be less than 48 hours. In districts where the trades are pursued which are known to expose the workers to anthrax infection, such cases will probably not escape recognition. Where, as in the present case, there was nothing to connect the condition with anthrax, it is very different, and the *importance of post-mortem* examination can hardly be overstated As it was, the diagnosis, even at the examination, presented difficulties which might well occur again and deserve careful consideration. The illness was an acute one with implication of the nervous system as its only prominent feature, this being explained by the presence of a lesion of the meninges of recent origin. Elsewhere—viz., in the intestine—was found a lesion obviously of older date with corresponding changes in the mesenteric glands, and no other lesion of equal age was found on any other mucous surface and there was no external wound or œdema. In other respects the appearances were those of septicæmia. In the circumstances it is impossible to imagine the intestinal lesion the result of a general infection and we are forced to the conclusion that it was the site of entry of the infection.

It is unfortunate that the question of infection through the respiratory tract cannot be settled by microscopic examination. The œdema and hæmorrhagic infiltration of the mediastinal tissues and the pleuritic effusion are among the characteristic post-mortem appearances of the pulmonary form of anthrax as described by Greenfield,[3] but both of these might be phenomena of the general toxæmia which is shown in the condition of the spleen and kidneys and blood-vessels. On the other hand, the scarcity of anthrax bacilli in the mediastinal tissues and glands is in striking contrast to their abundance in the mesenteric glands, and the absence of characteristic naked-eye lesions of the lungs and bronchi was confirmed by several observers.

Infection through the intestine is the rarest form of anthrax in man although the commonest in cattle and horses Intestinal lesions associated with malignant pustule or carbuncle appear to have been recorded first by Fournier[4] about 1750. The connexion of the human malignant carbuncle and cases of malignant fever without external lesion with the charbon or anthrax of animals appears to have been recognised towards the end of the eighteenth century by Chabert[5] (1780). In the early part of the following century, intestinal lesions similar to those described by Fournier were noted apart from external pustules by Costa and Bertin.[6] Under the name mycosis intestinalis cases of general infection with intestinal lesions were recorded in Germany by Wahl[7] (1861), von Recklinghausen[8] (1864) and Buhl[9] (1868), who noted the resemblance of the lesion to the intestinal anthrax of cattle, and Waldeyer[10] (1871). Blavot,[11] in his account of an epidemic of anthrax in Strasburg in 1863, observed intestinal lesions, and in 1871 Münsch,[12] in investigating anthrax among hairworkers in Moscow, appears to have had to do with the three types—malignant pustule, pulmonary anthrax, and mycosis intestinalis—and to have recognised that they were all manifestations of one disease—anthrax. More recently, a number of papers on the subject accounting for about a dozen cases have been published in Germany. Many of these cases, however, were pulmonary anthrax with secondary intestinal infection.

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[2] J. H. Bell: Article "Anthrax," in Allbutt's System of Medicine, 1897, vol. ii., p. 52[illegible].

[3] Greenfield: Reports of Local Government Board Medical Officer, London, 1881.

[4] Fournier: Quoted from Ziemssen's Cyclopædia, 1875, vol. iii., p. 421.

[5] Chabert: Quoted from Bell, vide reference 2.

[6] Costa and Bertin: Quoted from Ziemssen, see reference 4.

[7] Wahl, [8] Von Recklinghausen, [9] Buhl, [10] Waldeyer: Quoted from Bell, see reference 2.

[11] Blavot: Quoted from Ziemssen's Cyclopædia, 1875, vol. iii., p. 421.

[12] Münsch: Quoted from Bell, see reference 2.

Up to 1901, according to Bell, primary intestinal anthrax without external lesion had not been observed in this country, and although he states, without giving details, that it is not uncommon in countries where anthrax is of frequent occurrence, it is evidently a decided rarity. Cases of gastric or intestinal anthrax, either accompanying a malignant pustule (cases of Mahomed,[13] Newton Pitt,[14] Lucas,[15] and Bell) or associated with extensive lesions in the lungs (Poland), or of the œdematous and erysipelatous type of anthrax (Bell[16]) have been described, but for the most part the duration of the illness was much longer than in the present case and the gastric and intestinal lesions were held to be secondary. Poland[17] regarded his case as of the inhalation type but the intestinal lesions were large, and but for the fact that there was little alteration in the mesentery the case would well bear interpretation as primary intestinal anthrax.

The case reported by Scott[18] in 1901 is probably an example of primary infection of the stomach by hair but with an accompanying skin infection. The subject was employed in an upholsterer's workshop as a cleaner and the infection was traced to hair which was in use for stuffing chairs. Other cases occurred among hairworkers about the same time in Glasgow. The woman first noticed a pimple on her cheek which after some days developed into a typical malignant pustule. On the third day she had a rigor, on the eighth day she developed epigastric pain, and died on the tenth day of illness. "Malignant pustules of large size were found in the stomach while numerous smaller ones were found in the intestines. It is interesting to note in connexion with these pustules in the stomach and intestines that her brother voluntarily stated that the patient was in the habit of chewing hair." The forewoman at her place of work had noticed portions of the hair between her lips. In more recent literature I have found after fairly extensive search only one case in this country and a case recorded by Risel,[19] which will be referred to further for other reasons, and in both of these the intestinal lesion appears to have been secondary.

The flesh of animals which have died from the disease has frequently been eaten by man without ill-effects. Infection of cats, dogs, and pigs by other portions of the same meat has been recorded[20]; the different result in this instance may have been due to the meat in the case of man having been cooked, whereas in the case of the animals it was raw. Experimentally it has been shown, however, that carnivorous animals are much less readily infected by feeding than graminivorous animals. Man appears in this respect to resemble the former class, even secondary infection of the stomach and intestines being so rare that a relative immunity to this form of infection appears probable.

The diffuse meningeal hæmorrhage, which was responsible for the most striking clinical features of the present case as well as for the recognition of its nature, is in many respects of great interest. Hæmorrhage, more or less diffused throughout the pia-arachnoid, is not a very rare condition. It is the commonest form of cerebral hæmorrhage in infants, occurring at birth as a traumatic condition, while the cause of cases occurring later appears to be obscure. It is associated with convulsions, whooping-cough, and sinus thrombosis in wasting disease. It is said to have been seen in infantile tetanus. In adults it is met in association with injury and apoplexy and septic conditions. In apoplexy the blood tends, as a rule, to pass inwards into the substance of the brain rather than to diffuse itself through the pia-arachnoid, but in cases of hæmorrhage bursting into the lateral ventricles and arachnoid cisterns of the base of the brain a very general diffuse hæmorrhagic condition of the membranes has been observed, but the accumulation of clots about the base of the brain and in the ventricles produces a condition which could hardly be confused with the present. The closest resemblance to this condition which I have seen was observed in a case of multiple small lacerations of the cerebral hemispheres due to a fall without fracture of the skull, but the diagnosis presented no difficulty.

Pia-arachnoid hæmorrhage due to septic disease, according to Pye-Smith,[21] is not common; it occurs in blood poisoning, pneumonia, anæmia, and purpura. Coats[22] mentions in addition anthrax and ulcerative endocarditis. Scurvy is also mentioned. "Blood poisoning" and pneumonia are the commonest names under which unrecognised cases of anthrax in the beginning and course of epidemics are registered and purpura is a somewhat vague septic condition which might cover anthrax.

Although the records of hæmorrhagic meningitis are not numerous, it appears to be no great rarity in comparison with the total number of cases of human anthrax which prove fatal. Bell states that about 22 per cent. of the subjects of anthrax in the epidemics in Bradford and the neighbouring wool-manufacturing districts showed rambling of the mind and delirium, and of these five became comatose and three had convulsions (eight out of 87) and in most of these he believed that meningeal hæmorrhage had occurred. It was observed post mortem in three cases which are detailed by Greenfield[23] in his report on the Bradford epidemic. Risel has collected from German and English literature over 24 cases in which the condition was found. It is therefore perhaps not too much to say that in all cases of acute disease, especially if associated with septic phenomena such as enlargement of the spleen and mediastinal œdema, diffuse hæmorrhage into the meninges ought to awaken suspicion of anthrax.[24]

As regards the route by which the organisms reached the meninges there are three alternatives, of which two are allied. It appears to be taken for granted that, as a rule, they are conveyed by the blood stream. In Risel's collection there would come under this category all the inhalation cases, 12 in number, three of obscure internal origin, and five or six external, but there are four cases in which the pustule was situated on the face or neck, and in one of these (Ziemke's) the meningeal infection was regarded as having occurred through the lymphatics. There was great œdema of the neck with widespread infection of the lymphatics, which was held to have obstructed the lymphatics draining the cranial cavity and enabled the bacilli to travel back along them to the subarachnoid lymph spaces and their branches. In these cases no bacilli could be found in the blood. In the other cases the bacilli were found within the vessels, but as a rule were few in number in comparison with the immense numbers in the extravasated blood. In one or two the bacilli swarmed in the blood-vessels as in those of animals inoculated experimentally.

In the case recorded by Risel (Case 2 of his paper) the lungs were free from infection, there was a small intestinal pustule with limited infection of the mesenteric glands, and the most striking lesions were situated in the nose and pia mater. The nasal mucous membrane was swollen, infiltrated with blood, and flecked with bloody mucus. Anthrax bacilli were found in abundance in it at several points and there was a hæmorrhagic and leucocytic exudation containing bacilli in the perineural lymphatic channels of the olfactory nerves which was followed through the cribriform plate to the dura mater overlying it. There was an enormous pia-arachnoid hæmorrhage, the layer of blood beneath the arachnoid being one centimetre thick over certain parts of the cerebral hemispheres. There was much blood also about the base of the brain. The bacilli were present in large numbers in the extravasation and in the meshes of the pia-arachnoid, and especially in the lymph channels surrounding the blood-vessels of the meninges and the small nutrient vessels of the cerebrum, but they could not be found within the blood-vessels of the meninges. There were a few in the spleen and liver but none in the lungs or kidneys. Risel therefore appears to be justified in concluding that they had reached the soft

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[13] Mahomed: Transactions of the Pathological Society of London, 1883, vol. xxxiv., p. 294.

[14] Newton Pitt: Ibid., vol. xlii., p. 103.

[15] Lucas: Brit. Med. Jour., vol. i., 1893, p. 350.

[16] J. H. Bell: Brit. Med. Jour., vol. ii., 1901, p. 1330.

[17] J. Poland: Transactions of the Pathological Society of London, 1886, vol. xxxvii., p. 550.

[18] Alex. Scott: Brit. Med. Jour., vol. ii., 1901, p. 136.

[19] Risel: Zeitschrift für Hygiene und Infectionskrankheiten, 1903, vol. xliii., p. 381.

[20] Meat Infection, Gilruth in Report of New Zealand Department of Agriculture, Division of Veterinary Science, 1901–02.

[21] Pye-Smith: Hilton Fagge's System of Medicine, vol. i., p. 557.

[22] Coats: Text-book of Pathology, fourth edition, p. 900.

[23] Greenfield: As above, see reference 3.

[24] I have to express my indebtedness to Dr. K. Landsteiner of Vienna, who had informed me that he had seen more than one post-mortem examination in which the discovery of diffuse pia-arachnoid hæmorrhage gave the first warning that the pathologist had to deal with a case of anthrax.

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[14] Newton Pitt: Ibid., vol. xlii., p. 108.

[15] Lucas: Brit. Med. Jour., vol. i., 1893, p. 350.

[16] J. H. Bell: Brit. Med. Jour., vol. ii., 1901, p. 1330.

[17] J. Poland: Transactions of the Pathological Society of London, 1886, vol. xxxvii., p. 550.

[18] Alex. Scott: Brit. Med. Jour., vol. ii., 1901, p. 136.

[19] Risel: Zeitschrift für Hygiene und Infectionskrankheiten, 1903, vol. xlii., p. 381.

[20] Meat Infection, Gilruth in Report of New Zealand Department of Agriculture, Division of Veterinary Science, 1901–02.

[21] Pye-Smith: Hilton Fagge's System of Medicine, vol. i., p. 557.

[22] Coats: Text-book of Pathology, fourth edition, p. 400.

[23] Greenfield: As above, see reference 3.

[24] I have to express my indebtedness to Dr. K. Landsteiner of Vienna, who had informed me that he had seen more than one post-mortem examination in which the discovery of diffuse pia arachnoid hæmorrhage gave the first wa[illegible] the pathologist had to deal with a case of anthrax.

could be made out above it. The fundus was hard and firmly contracted. On vaginal examination the face was reached high up in front; it was moveable above the brim and not attempting to engage. The right foot, also moveable, was lying just below the level of the face. The hand could be passed into the lower segment of the uterus all round the head and leg but above the head the position of the retraction ring was very marked. Under deep anæsthesia the foot could be brought down to the vulva but this traction did not alter the relation of the fœtus to the uterine wall. The whole uterus descended with the fœtus and when traction ceased the leg again receded to its former level. The measurements of the pelvis were taken and showed clearly that it was contracted; at the same time it was quite obvious that the difficulty in delivery was not now due to the contracted pelvis but to the retraction ring and the grip of the fundus upon the trunk of the fœtus. The head could not rise and the trunk could not descend when traction was made on the leg or the head. The head was perforated through the eye and after traction had been made with the cephalotribe without success the neck was severed with long scissors and the head was removed. Gentle traction on the leg at once delivered the fœtus. The clinical measurements of the pelvis were: *external conjugate*, 7½ inches; interspinous, 9½ inches; intercristal, 11¼ inches; diagonal conjugate, 4¼ inches; estimated conjugate, 3½ inches (high promontory). The patient made a good recovery after a long convalescence but the vagina became much contracted by bands of cicatricial tissue. The posterior wall of the upper half of the urethra sloughed and there was still incontinence of urine. The patient was a tall strong woman who showed no other signs of rickets and had no other deformity. The fœtus was not of excessive size and weighed seven pounds after perforation and measured 20 inches. Since writing this the patient has become pregnant.

CASE 2.—The patient was a married primipara at full term of pregnancy. Labour began about 11 P.M. on Dec. 27th. The attending medical man examined and found the os undilated but made out that the head was presenting. He also noted that the abdomen was very pendulous. A tight binder was applied and the patient was advised to lie on her back as much as possible. About 6 A.M. on the 28th the membranes ruptured and strong pains came on. The medical attendant found that the head, arms, and legs were presenting above the brim of the pelvis. The os uteri admitted three fingers. An anæsthetic was given and traction was applied to the legs with pressure put on the breech from above. After a prolonged unsuccessful attempt at delivery in this way the patient was sent to Guy's Hospital about 12 noon. On admission the patient was painfully conscious but free from pain. The pulse-rate was 160 per minute. There were great discolouration round the vulva and laceration of the perineum and vagina below. On abdominal examination much the same condition as in Case 1 was found. The fundus was hard and contracted tonically. The retraction ring could be made out placed obliquely and about four inches above the pubes. The uterus was not tender and all attempts at bearing down were absent. The fœtal head was felt plainly lying in front just above the pubes. It formed a hard round mobile swelling and could be pushed laterally for two inches or more in either direction. It seemed to be covered with a very thin dilated but lax lower segment of the uterus. On vaginal examination under an anæsthetic the head could be reached high up above the pubes in front, the right arm was hanging down beside it but the shoulders were held up above the retraction ring. The right leg was also hanging down behind and to the right of the head and arm. The head was perforated and crushed but traction with the cephalotribe failed to move the fœtus. Traction was then applied on the leg and after considerable difficulty the perforated head rose above the retraction ring and the fœtus was easily delivered. The patient died about half an hour later.

At the necropsy the uterus and vagina were dilated into one cylindrical canal and there was no rupture or tear in the genital tract except at the perineum. The post-mortem examination was made 24 hours after death and no sign of the retraction ring was found, nor was this very marked on examination after delivery. There was an oblique tear of about two inches in the left broad ligament behind and some of the veins at the base of the ligament had ruptured, giving rise to the half pint of free blood found in the peritoneal cavity. The rupture was situated low down and did not reach up to the uterus. There were considerable laceration and bruising about the vaginal outlet and the perineum was also torn. The mother was of good height (5 feet 6 inches) and showed no other deformity. The pelvis was removed from the body.

Description of the bony pelvis.—On inspection the pelvis showed a delicate formation and the generally contracted type without change of shape other than a slight obliquity towards the right. The outside measurements were: interspinous diameter, 8½ inches; intercristal diameter, 9½ inches; external conjugate, 6½ inches; *posterior interspinous*, 3½ inches; true conjugate, 4 inches; right oblique, 4½ inches; left oblique, 4¾ inches; maximum plane of expansion, 5 inches; minimum plane of expansion, 4½ inches; from the lower part of the pubes to the tip of the lower end of the sacrum, 5 inches; and interischial tuberosities, 4¼ inches. It will be noted that the left oblique diameter is a quarter of an inch longer than the right, due to slight flattening of the left iliac bone in front, so that the symphysis of the os pubis is pushed for a quarter of an inch to the right of the middle line. To be strictly correct, therefore, this is a generally contracted pelvis with a slight oblique tendency towards the right. Both hip-joints and spine were normal, so that it is difficult to explain how this slight oblique twist arose. The alæ of the sacrum were equal on both sides. It is thus obvious that the pelvic brim was quite able to accommodate the fœtal skull and there was ample room in the cavity to allow of its passage. The measurements in the first case were estimated by clinical means; in the second they are taken from the actual specimen removed from the body.

The details in the early stages of labour in both cases are not very trustworthy. The uterine contractions appear not to have been very marked and there seems to have been no violent or excessive action leading up to the tonic contraction. I think therefore that one must look upon the condition of the uterus as premature contraction and retraction. At the time of admission into hospital the two cases illustrated a similar state, both as to the fœtal position and the uterine action, with the exception that the head was extended in the first case and flexed in the second. The uterus may be described as consisting of two parts, an upper contracted *fundal portion*, containing the arched back of the fœtus, and the lower lax thin part, containing the moveable head and leg, and in Case 2 the arm in addition. Between the two compartments was the rigid retraction ring gripping the neck and thigh of the fœtus. The fundus was in tonic contraction and there was a complete absence of any driving down force; in fact, the uterus may be said to have prevented its own action, for the fœtus was held high above the brim, suspended by its back. Apart from the danger of rupture of the uterus traction on the leg failed because the head could not rise from below the retraction ring and traction on the head was equally useless because the shoulders could not descend from above the retraction ring. Although the pelvis in each case was moderately contracted it was playing no part in the prevention of delivery at the time of admission.

On making strong traction with the cephalotribe, applied to the fœtal head after perforation, it was extremely difficult to make the head reach the brim, and the traction had merely the effect of pulling both uterus and fœtus down together. The result was that when released the uterus again sprang back to its original position, dragging the fœtus with it. It is not easy to determine how this unusual condition came about, for the details of the early stages of labour are not full enough. Although the pelvis in both cases seemed large enough to allow the passage of the normal fœtal head, the contraction may have been sufficient to prevent the head primarily from settling into the brim. A face presentation resulted in the first case, but in the second flexion was undisturbed. The medical attendant attempted version in Case 1, and spontaneous version may have been in progress in Case 2. The uterus then went quickly into tonic contraction and, as it were, caught the fœtus while in the act of turning, and as contraction and retraction became more marked the presenting parts were actually lifted high up above the brim. In the second case the pendulosity of the abdomen was noted before labour had started; this suggests that the fœtal head had not settled into the brim at the commencement of labour. In neither case was there any evidence of moulding.

Treatment.—The condition is easily recognised from obstructed labour due to contracted pelvis. In the first place, the head is so moveable and high that it can only be reached made to bring about, if desirable, a moderate state of distension of the entire colon. *Simple injections* for retention in the bowel do not require the rectal tube which should be removed after the preliminary irrigation. They are conveniently performed with the help of a large surgical syringe.

2. *Injection and irrigation of the lower ileum.*—As a ready access to the small intestine was part of the object of the operation, in case it should have been diseased, and with a thought also for the requirements of typhoid fever cases, I directed most of the injections which I myself performed into the small intestine, having previously worked out the method in the dead body with Sir William Bennett. The *modus operandi* is simple and has been found quite easy by my house physicians as well as by myself. The catheter is bent (not too sharply) to about 110° at a point two and a half inches from its tip. It is to be introduced, not sagittally as when it is intended for use in the cæcum, but inwards and downwards as well as backwards in the direction of the nearest spot on the brim of the pelvis. The assurance that the catheter has entered the small intestine is given by the greater length introduced (maximum in this case nine inches), by the subjective sensations of the patient experienced in the hypogastrium even so far as the middle line, by the direct palpation through the abdominal wall sometimes obtained by the operator, and by the skiagram of the stilette *in situ*.[5]

3. *Systematic lavage of the lower ileum*, such as might be suitable for ulcerative typhoid fever, is best performed with two tubes instead of the single catheter. With the valuable assistance of Mr. Aylen I have satisfied myself in this case that a therapeutic lavage of the last portion (probably a foot or two) of the ileum could be readily achieved after a preliminary cleansing irrigation. For this special purpose I have introduced side by side a No. 2 gum catheter and a No. 6 gum catheter; but I should prefer the indiarubber instruments if made thinner in the wall. The small catheter is passed through the valve first, in the manner which I have described, to the distance desired, and the larger one is then introduced into the cæcum, where it acts as a draw-off for the fluid injected higher up. This arrangement might enable antiseptics to be used locally which it might not be desirable to expose to absorption by the mucous membrane of the entire colon. The quantity injected being noted evidence would be obtained that it had been duly recovered from the cæcum either by simple syphonage or if necessary by aspiration with the syringe. For this lavage the patient should assume a three-quarters right lateral decubitus to promote the descent of the injected fluid into the cæcum.

Although the experience which I have detailed has been gained in a single case it will probably apply in general outline to the majority of cases. The anatomical relation of the ileo-cæcal valve to the brim of the pelvis is not liable to much variation and that which exists between the valve and the entrance to the appendix is also fairly constant; it is in the direction taken by the tail of the latter that the chief individual differences are found and these would be eliminated by dividing the appendix high up. A short stump would also afford the advantage of a broader way into the bowel, although it might fail perhaps to provide for a faithful sphincter-like action.

Remarks on Appendicostomy and the Treatment of Typhoid Fever.

The answer to the question proposed by Mr. Keetley in THE LANCET of April 14th, "Ought not typhoid fever patients to be operated on before fatal perforation and bleeding occur?" must ultimately depend upon the results which may be achieved by early surgical interference when it comes to be tried. It is clearly too late to begin any local treatment of the bowel when the patient is *in extremis*. These resuscitation operations are a purely surgical concern and have nothing in common with the local therapeutic method for which surgical assistance may be desired by the physician. I may be allowed to state that the anxiety with which I have been credited by Sir William Bennett[6] and by Mr. Keetley[7] to utilise appendicostomy for the benefit of typhoid patients is in reality little more than a return to views which I had held for years as to the necessity for a local treatment of the ulceration presumably by a surgical route, until the favourable results yielded by the "empty bowel treatment," which I described in my last published clinical lecture on the Principles of Treatment of Typhoid Fever,[8] led me to hope that surgical help might be dispensed with. This apparent change of front is only as to the means. It is not due to any less regard for the "empty bowel treatment" but to a more personal acquaintance with the special facilities for local treatment combined in appendicostomy with a minimum of operative risk and of after trouble. Indeed, my obligation to Sir William Bennett for having for years discouraged my appeals for modes of interference offering doubtful surgical prospects is not less than that I owe him for having finally provided me with this more hopeful method; and once more the possibilities connected with surgical access to the bowel must command my careful consideration in spite of my recent disclaimer.

Mr. Keetley in the concluding paragraph of his important and suggestive paper alludes to some possibly superior advantages of enterostomy. Without presuming to discuss the surgical merits of the two operations, and although this is a purely academical stage in their discussion, I may perhaps record my preference for the less severe one which entails little interference with the intestinal economy, and in that sense affords much better scope for local medical treatment. For I cordially agree with Mr. Keetley's sentiment that "the operative treatment of typhoid fever ought not to mean taking the disease out of the physician's domain and transferring it to the surgeon's. It is a means of facilitating treatment by the physician."

I have briefly sketched the mechanical technique adapted for the "appendicotherapy" which may soon be made available for the treatment of the "typhoid segment" both when ulcerated and, perhaps better still, prophylactically prior to ulceration. Meanwhile, my therapeutic endeavour is not, either in this or in any other affection, to extend but rather to contract the surgical frontier. I still consider that the medical resources for the cure or the curtailment of the typhoid attack are by no means exhausted. But if the knife should prove to be an indispensable accessory to that achievement I should not decline its service. I also believe that Mr. Keetley's question as to the proper time for surgical interference would then be decided on grounds of public health; and that it would probably be decided in favour of a sterilisation of Eberth's bacillus *in situ intestinali* with a minimum of surgery and of the utmost reduction by that way of the spread of typhoid infection.

Curzon-street, W.

TWO UNUSUAL CASES OF DIFFICULT LABOUR.

BY H. T. HICKS, F.R.C.S. ENG.,
OBSTETRIC REGISTRAR AND TUTOR, GUY'S HOSPITAL; AND ASSISTANT SURGEON TO THE SAMARITAN FREE HOSPITAL.

CASE 1.—The patient, a married woman, aged 31 years, had had one full-term child, born dead after a prolonged labour which ended in a difficult forceps delivery; this was two years ago. She had now reached the full term of her second pregnancy. Labour pains began in the afternoon of March 27th. The os was only slightly dilated and the face was found presenting; the membranes ruptured about 9.30 P.M. As the face did not descend and the pelvis was contracted version was attempted by the patient's medical man about two hours after the membranes had ruptured. The face was lifted out of the brim without difficulty and the right foot was found close down beside the head. The head was said to be moveable. Traction on the leg failed to move the child and after a prolonged attempt, first at version and then at applying forceps to the head under an anæsthetic, the patient was taken to Guy's Hospital in the early hours of March 28th. On admission the pulse was 136 per minute but the general condition was fairly good. There were great swelling and bruising of the vulva and vagina. On abdominal examination the extended head could be felt easily just above the pubes in front; it was freely moveable and Bandl's ring hollow-ground scalpels, made by Messrs. Down Brothers to my design. The ordinary scalpel is quite unsuitable for skin division at any time unless extremely sharp. It is wedge shaped and, may I say, the worst treated of all instruments. Is it not thrown into the tray, on the bed, and generally neglected? If an ordinary scalpel is used in my new skin operation nine out of ten cases will prove a failure. There must be one clean cut without force. The ordinary scalpel used as it should be will seldom do this, but more often dissect up a quarter of an inch or more epithelial flap before penetrating the corium. My hollow ground scalpel must be used only for the purpose for which it is intended and substituted for the ordinary scapel as soon as the skin is divided. It must be treated with the greatest care and after stropping cleansed with ether and alcohol. Light spring tissue forceps, dissecting forceps, and sometimes lance-pointed needles and horse-hair sutures are required, as also are dressings, glass cover, collodion, silk, absorbent wool, bandages, and sometimes a back splint.

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[5] Dr. Ewart showed us two skiagrams which we were unable to reproduce. The one showed the catheter lying in the ascending colon and the other showed it in the small intestine passing across from the right-hand side of the false pelvis, across the middle line till the point was lost about the brim of the true pelvis on the left-hand side.—ED. L.

[6] THE LANCET, Feb. 17th, 1906, p. 419.

[7] THE LANCET, April 14th, 1906, p. 1023.

[8] Brit. Med. Jour., Dec. 9th, 1905.

With regard to the operation itself, the skin should be reasonably stretched in all directions by assistants if this is not already the case by some underlying tumour. The angle at which the knife should be held can only be learnt by practice. The skin, as a rule, will give five or six millimetres or about a quarter of an inch flap, but in addition at least as much fat flap, except, of course, when the fat is excessive. Fat makes firm rapid union and is therefore of considerable importance. The knife should make one clean sweep down to the fascia, which in turn should be divided as far under the base of the upper flap as possible and on no account should the lower flap be dissected off this fascia. The upper flap is now inclosed in warm, dry, sterile lint and secured far back with tissue forceps. The lower flap being retracted on the fascia is treated in a similar manner and the operation for which the incision was made proceeds in the usual manner. If the operation is prolonged the warm, dry lint should be renewed.

The next step is the important one of adjustment. Upon the question of tension depends the necessity of a subcutaneous suture. I seldom use a suture but when I do it is as follows. I pass a lance-shaped slightly curved needle threaded with fine horsehair through the skin upon the slant at a little distance from one extremity of the wound; it then passes through the base of the upper and the apex of the lower flap continuously, its point of exit being through the skin on the slant at the other extremity of the wound. The suture is not tied and is removed at the end of 48 hours. Previously to inserting a suture, in all cases the following very important manipulation must be carried out. The object is to stretch the delicate apex of the upper flap, the least force will tear it off, therefore if forceps are used great care must be exercised. I find the best plan is gently to press this edge between the finger and thumb when it will be found gradually to yield; at the same time the lower flap must be stretched and placed in position with suitable forceps. The delicate edge is then carefully spread in its proper position, the accuracy of which is best tested with a good large magnifying glass. The subsequent object of dressing is to keep this edge, together with the rest of the flap, in accurate flat position, remembering that undue pressure may cause damage. Sometimes I secure the wound by placing across a few strips of China silk and collodion, at others by merely placing collodion on the curved or flat glass dressing. When the glass is pressed flat the exact position of the flap can be seen at a glance. I prefer glass to celluloid or mica because it is rigid, a matter of importance when applying pressure. In all probability excellent results will be obtained in a dozen other ways. I use glass because I am accustomed now to its manipulation, but I do not propose to go into any further details on this point at present. I published a paper[1] a little time ago giving some details, but I find that surgeons consider it is too much trouble, although they admit that the principle is correct.

With regard to pressure, it should be slight for the first few days, then gradually increased. Whichever rigid dressing is placed over the wound it should be covered by a large pad of wool. If no rigid dressing is thus used in all probability a contracted condition of the flap will result. Sooner than allow a wound to heal in bad position I would always break it down and begin again.

At the present time I am more concerned with the artistic effect produced when operating upon the more exposed parts of the body and particularly in those classes of society to which any undue blemish is of importance, especially in removing glands from the neck. The mechanical advantage of the operation in general I am well aware of. It is to be feared that only in these cases will the best results be obtained. We are all aware that wounds on the face heal rapidly but do they not invariably leave ugly scars? I prefer to deal with these cases by converting the accidental cut to one on the slant at or as near the time of accident as possible and I have no hesitation in breaking a recently healed wound for this purpose. In such cases where the operation has been performed by a consulting surgeon the general practitioner must be called in to play a most important part; not only should he personally be intrusted with the subsequent massage but also with the general supervision for a considerable period and this should in all cases be explained to the patient before operation. These results would seldom be obtained with the poor who would not be found to present themselves once the wound was healed. The difficulties of the operation are not many but they will be met with—a very thin skin over a tense cyst or abscess, and, on the contrary, a very lax condition of skin may tax the ingenuity of the beginner but not the experienced surgeon.

The very important question now to be considered is the one of massage. The massage of wounds and scars practically is not recognised and as a general rule may be said to be entirely neglected and yet is there any reason why it should not be carried out with as excellent result as in the case of bones, ligaments, muscles, &c.? The moment a wound has healed over, as a rule, it is left to its fate and only when the skin has formed firm adhesions and contractions is the damage realised. In any ordinary wound involving the whole thickness of the skin the scar may be prevented from forming adhesions; it may be stretched, softened, and in many other ways improved.

In the case of my incision upon the slant there is perhaps only a very small amount of scar tissue, but though unseen it is there. Proper massage and stretching if necessary will promote circulation, restore contour, and prevent subcutaneous adhesions. Few patients would submit themselves continuously to the consultant or general practitioner after all apparent reason had gone for so doing and therefore I am drawn to the conclusion that it is only by the coöperation of both that the best results will be obtained.

Wimpole-street, W.

BRONCHO-PNEUMONIA AND PYÆMIA.

By IVY McKENZIE, M.A., B.Sc., M.B., Ch.B. Glasg.,
CARNEGIE RESEARCH SCHOLAR, PATHOLOGICAL DEPARTMENT, WESTERN INFIRMARY, AND UNIVERSITY OF GLASGOW; LATE RESIDENT ASSISTANT PHYSICIAN, RUCHILL FEVER HOSPITAL, GLASGOW.

THE serious complications of measles are those which are associated with, or follow on, the initial catarrh of the respiratory passages, and of the complications the most serious is broncho-pneumonia. This condition may develop during the acme of the exanthem or it may not appear until the eruption has faded and the initial fever has passed off. The clinical symptoms and signs and the pathological appearances vary greatly: the disease may terminate fatally after two or three days or it may continue for three or four months and end in recovery. In some cases the symptoms of respiratory distress may be very alarming and the objective pulmonary signs very indefinite, while microscopic examination may be necessary to determine the nature of the lesion. In other cases respiratory difficulty may be absent and fever may never exceed 99° or 100° F. and for the most part be below 98·4°, while physical examination reveals the presence of extensive consolidation, and on post-mortem examination there may be found advanced lobular consolidation with acute vesicular emphysema. No less varied is the number of pathogenic organisms that have been found in the bronchial secretion and in the inflammatory exudate. These include Fraenkel's pneumococci, Friedlander's bacilli, staphylococci, streptococci, pseudo-diphtheritic bacilli, and bacilli coli. It is believed that the pneumococcus is present in the great majority of cases and it with difficulty with the cephalotribe or by long forceps; and, secondly, the uterus does not drive the presenting parts towards or into the brim, even though the latter could accommodate them. These facts are sufficient to make one suspect that the trouble lies at the retraction ring and not at the brim of the pelvis. It is of the utmost importance to recognise the condition because traction on the leg or on the head with forceps is not without danger. The treatment is clear. A blunt cephalic hook is passed round the neck of the fœtus in order to bring the head as low as possible. The neck is then cut through, either with scissors or with the sharp hook. The head is then crushed and delivered with the cephalotribe after perforation. Gentle traction on the leg will effect speedy delivery of the trunk. It was noted at the time that in both cases the uterus was not very hard and the patients suffered only slight pain. Ergot had not been given in either case.

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[1] See THE LANCET, Nov. 18th, 1905, p. 1453.

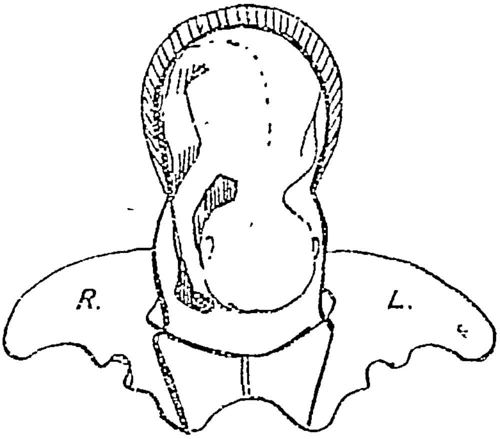

Diagram of the position of the fœtus in relation to the pelvic brim and uterus.

I have to thank Mr. J. H. Targett for kindly allowing me to describe these cases.

St. Thomas's-street, S.E.

INVISIBLE SURGERY.

By J. L. A. AYMARD, M.R.C.S. Eng., L.R.C.P. Lond.

A METHOD of skin division without leaving a permanent visible scar would appear to most surgeons to be an impossibility and yet such is not the case. My new skin incision is by no means the result of a sudden inspiration but rather the outcome of a study of the important subject of scars in general. I notice with regret a tendency to resent details when issued by great surgeons and therefore fear that the present addition to what appears to be the simplest of operations may not be received without considerable irritation, and yet I will publish none which I do not consider essential to complete success.

My new method of skin division consists of the simple operation of dividing it upon the slant in contradistinction to the present method of dividing the same at right angles to the surface. My idea, though new by design, is by accident of very ancient origin. There are few of us who have not on our person some example, however small, of this cut through the skin upon the slant. Such a cut, if extensive, generally presents a somewhat lumpy appearance due to contraction and very often a smooth mark at the line of junction. It is a skilled application of the principle with scientific correction of the defects which give results entitling such a heading as appears to this article.

Before dealing further with this new incision it will be well to consider the one generally in use at the present time—namely, at right angles to the surface. The skin alone is in most places quite thin and were it not for the fat it would be most difficult to bring it in anything like contact. From experiments I have made I am inclined to think that, except in the immediate proximity of a suture, the tendency of the ordinary applied dressing is rather to cause separation than approximation. In any case, the result of a clean incision at right angles to the surface is always a white linear scar. A continuous suture gives no better result. The reason why a cut through the skin upon the slant and subjected to properly applied pressure heals so perfectly is not far to see. Contact is perfect and the greater the pressure within limits the better it is. I have proved beyond doubt granulation growth can be controlled by pressure and was therefore not in the least surprised to get such good results from this new incision. The ordinary process of healing proceeds as usual but granulation tissue with subsequent fibrous and scar tissue is reduced to a minimum. The scar is present but hidden away and, if I may quote, "What the eye does not see the heart does not grieve."

Fig 1

Section of New Skin Incision

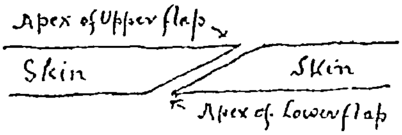

Fig 2

Shewing Contraction

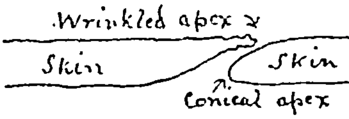

Fig. 1 gives a rough idea of the new incision. Fig. 2 gives also a diagrammatic appearance of the condition of the flaps directly after division.

It is of the greatest importance that we should grasp what takes place. The apex of the upper flap at once retracts and becomes wrinkled, curling inwards or outwards according to the region of the incision. The apex of the lower flap takes as a general rule a conical form. In the subsequent approximation these points should be borne in mind. It is not sufficient simply to adjust the wrinkled apex of the top flap.

Now as to the details of the operation, preparation of skin, anæsthetic, preparation of hands, light, instruments, dressings, and after treatment. All extravagant preparation of the skin is, I think, out of the question, the simple expedient of scrubbing with hot water and soap being quite sufficient, the skin being then protected with a warm dry sterile pad. The question of shaving the site of incision is a matter of some importance; shaving a hitherto unshaven part is apt to produce a vigorous growth of hair, and no lady in social position will thank you for this. I therefore consider it best to extract with forceps those hairs which are in the immediate neighbourhood of the incision, fixing others with collodion out of the way. In the case of a man, from whose cheek or chin I wish to remove a tumour, my plan is as follows. Allow two days' growth of hair, then extract as above in proximity to line of incision, then shave the whole surface. Any fear of hairs growing at once into the wound is avoided. Having done this I prefer the application of a warm dry pad, not a moist one, as the skin should not be macerated before operation. As to an anæsthetic, I generally prefer not to use a local one on account of the extra swelling. Hands are prepared in the usual manner, avoiding gloves; the latter will be found almost impossible in the delicate manipulation described later. An excellent light is, of course, essential when adjusting the upper flap, and a large magnifying glass is of great assistance.

Now as to instruments. The most important of all is, of course, the knife. My earliest efforts were made with an adapted hollow-ground r I now use most excellent hollow-ground scalpels, made by Messrs. Down Brothers to my design. The ordinary scalpel is quite unsuitable for skin division at any time unless extremely sharp. It is wedge-shaped and, may I say, the worst treated of all instruments. Is it not thrown into the tray, on the bed, and generally neglected? If an ordinary scalpel is used in my new skin operation nine out of ten cases will prove a failure. There must be one clean cut without force The ordinary scalpel used as it should be will seldom do this, but more often dissect up a quarter of an inch or more epithelial flap before penetrating the corium. My hollow ground scalpel must be used only for the purpose for which it is intended and substituted for the ordinary scapel as soon as the skin is divided. It must be treated with the greatest care and after stropping cleansed with ether and alcohol. Light spring tissue forceps, dissecting forceps, and sometimes lance-pointed needles and horse-hair sutures are required, as also are dressings, glass cover, collodion, silk, absorbent wool, bandages, and sometimes a back splint.

With regard to the operation itself, the skin should be reasonably stretched in all directions by assistants if this is not already the case by some underlying tumour. The angle at which the knife should be held can only be learnt by practice. The skin, as a rule, will give five or six millimetres or about a quarter of an inch flap, but in addition at least as much fat flap, except, of course, when the fat is excessive. Fat makes firm rapid union and is therefore of considerable importance. The knife should make one clean sweep down to the fascia, which in turn should be divided as far under the base of the upper flap as possible and on no account should the lower flap be dissected off this fascia. The upper flap is now inclosed in warm, dry, sterile lint and secured far back with tissue forceps. The lower flap being retracted on the fascia is treated in a similar manner and the operation for which the incision was made proceeds in the usual manner. If the operation is prolonged the warm, dry lint should be renewed.

The next step is the important one of adjustment. Upon the question of tension depends the necessity of a subcutaneous suture. I seldom use a suture but when I do it is as follows. I pass a lance-shaped slightly curved needle threaded with fine horsehair through the skin upon the slant at a little distance from one extremity of the wound; it then passes through the base of the upper and the apex of the lower flap continuously, its point of exit being through the skin on the slant at the other extremity of the wound. The suture is not tied and is removed at the end of 48 hours. Previously to inserting a suture, in all cases the following very important manipulation must be carried out. The object is to stretch the delicate apex of the upper flap, the least force will tear it off, therefore if forceps are used great care must be exercised. I find the best plan is gently to press this edge between the finger and thumb when it will be found gradually to yield; at the same time the lower flap must be stretched and placed in position with suitable forceps. The delicate edge is then carefully spread in its proper position, the accuracy of which is best tested with a good large magnifying glass. The subsequent object of dressing is to keep this edge, together with the rest of the flap, in accurate flat position, remembering that undue pressure may cause damage. Sometimes I secure the wound by placing across a few strips of China silk and collodion, at others by merely placing collodion on the curved or flat glass dressing. When the glass is pressed flat the exact position of the flap can be seen at a glance. I prefer glass to celluloid or mica because it is rigid, a matter of importance when applying pressure. In all probability excellent results will be obtained in a dozen other ways. I use glass because I am accustomed now to its manipulation, but I do not propose to go into any further details on this point at present. I published a paper[1] a little time ago giving some details, but I find that surgeons consider it is too much trouble, although they admit that the principle is correct.

With regard to pressure, it should be slight for the first few days, then gradually increased. Whichever rigid dressing is placed over the wound it should be covered by a large pad of wool. If no rigid dressing is thus used in all probability a contracted condition of the flap will result. Sooner than allow a wound to heal in bad position I would always break it down and begin again.

At the present time I am more concerned with the artistic effect produced when operating upon the more exposed parts of the body and particularly in those classes of society to which any undue blemish is of importance, especially in removing glands from the neck. The mechanical advantage of the operation in general I am well aware of. It is to be feared that only in these cases will the best results be obtained. We are all aware that wounds on the face heal rapidly but do they not invariably leave ugly scars! I prefer to deal with these cases by converting the accidental cut to one on the slant at or as near the time of accident as possible and I have no hesitation in breaking a recently healed wound for this purpose. In such cases where the operation has been performed by a consulting surgeon the general practitioner must be called in to play a most important part; not only should he personally be intrusted with the subsequent massage but also with the general supervision for a considerable period and this should in all cases be explained to the patient before operation. These results would seldom be obtained with the poor who would not be found to present themselves once the wound was healed. The difficulties of the operation are not many but they will be met with—a very thin skin over a tense cyst or abscess, and, on the contrary, a very lax condition of skin may tax the ingenuity of the beginner but not the experienced surgeon.

The very important question now to be considered is the one of massage. The massage of wounds and scars practically is not recognised and as a general rule may be said to be entirely neglected and yet is there any reason why it should not be carried out with as excellent result as in the case of bones, ligaments, muscles, &c.? The moment a wound has healed over, as a rule, it is left to its fate and only when the skin has formed firm adhesions and contractions is the damage realised. In any ordinary wound involving the whole thickness of the skin the scar may be prevented from forming adhesions; it may be stretched, softened, and in many other ways improved.

In the case of my incision upon the slant there is perhaps only a very small amount of scar tissue, but though unseen it is there. Proper massage and stretching if necessary will promote circulation, restore contour, and prevent subcutaneous adhesions. Few patients would submit themselves continuously to the consultant or general practitioner after all apparent reason had gone for so doing and therefore I am drawn to the conclusion that it is only by the coöperation of both that the best results will be obtained.

Wimpole-street, W.

BRONCHO-PNEUMONIA AND PYÆMIA.

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THE serious complications of measles are those which are associated with, or follow on, the initial catarrh of the respiratory passages, and of the complications the most serious is broncho pneumonia. This condition may develop during the acme of the exanthem or it may not appear until the eruption has faded and the initial fever has passed off. The clinical symptoms and signs and the pathological appearances vary greatly: the disease may terminate fatally after two or three days or it may continue for three or four months and end in recovery. In some cases the symptoms of respiratory distress may be very alarming and the objective pulmonary signs very indefinite, while microscopic examination may be necessary to determine the nature of the lesion. In other cases respiratory difficulty may be absent and fever may never exceed 99° or 100° F. and for the most part be below 98 4°, while physical examination reveals the presence of extensive consolidation, and on post-mortem examination there may be found advanced lobular consolidation with acute vesicular emphysema. No less varied is the number of pathogenic organisms that have been found in the bronchial secretion and in the inflammatory exudate. These include Fraenkel's pneumococci, Friedländer's bacilli, staphylococci, streptococci, pseudo-diphtheritic bacilli, and bacilli coli. It is believed that the pneumococcus is present in the great majority of cases and it has been found by me in pure culture and associated with other organisms in 26 out of 34 cases examined. Not infrequently organisms may be found in the blood. In the examination of 12 cases, eight before death and four after death, in four of those examined before death organisms were found (two pneumococci, one staphylococci, and one streptococci), while in three out of the four examined after death organisms were found (one pneumococci, one staphylococci, and one bacilli coli). A case has recently been observed which constitutes a type altogether different from any of the many varieties usually seen and described. In this case, very acute in its course, the constitutional and nervous symptoms overshadowed the respiratory symptoms. The ultimate examination showed it to be a case of broncho-pneumonia giving rise to pyæmia and solely due to the staphylococcus aureus. It is, moreover, the only case in a series of 34 examined in which the staphylococcus aureus was present unassociated with any other organism. The case presents features of a singular character, interesting from both a clinical and pathological standpoint. It is the only case of its kind noted in the clinical observation of 1000 cases of measles and in the pathological examination of 130 cases of broncho-pneumonia.

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[1] See THE LANCET, Nov. 18th, 1905, p 14[illegible]

A boy, aged one year and eight months, came under observation on Sept. 26th, 1905. He was quite well until the 23rd when he took a "cold in the head." The eyes and nose discharged, cough was frequent, and he was not disposed to take his food. These symptoms increased in severity and were subsequently accompanied by considerable restlessness, until on the morning of the 26th a rash was noticed on the face. On the evening of the same day he was admitted to a measles ward in hospital. With regard to his previous health the child was said to have been healthy till the onset of the present illness. As to his family history and social conditions, the father and mother were alive and well. The patient was one of a family of four, all of whom were in good health. There was no evidence of constitutional disease in the history. He lived with his parents and three elder brothers in a house consisting of a room and kitchen, which was said to be well lighted and ventilated. He had always had plenty of nourishing food.

On admission (on the 26th) he was restless and slightly delirious. He was well nourished and developed. There was a profuse morbilliform rash all over the body. The conjunctivæ were suffused, the face was swollen, and rhinitis was present. The tongue was coated with a brown fur and Koplik's spots were present on the buccal mucosa. The throat was congested but there was no ulceration. The chest on inspection was seen to move freely and equably; the respirations numbered 52 per minute but were not laboured. On percussion the note over the pulmonary area was resonant throughout and on auscultation the respiratory murmur was everywhere accompanied by a moist inspiratory râle and an occasional wheezing râle; there was no evidence of consolidation. Cough was infrequent but secretion was not ejected. The area of cardiac dulness was marked on the right by the left sternal border, on the left by a line a quarter of an inch inside the nipple line and above by the third rib. The apex impulse was in the fourth interspace and a quarter of an inch inside the nipple line; the heart sounds were distinct, of good tone, and free from murmur. The pulse was regular in force and rhythm, of fairly good quality, and numbered 148 per minute. The abdomen was flaccid and the liver could be felt projecting beneath the right costal margin but the spleen could not be detected. The pupils were equal and reacted normally. The temperature was 101·2° F. On the 29th the progress of the patient was not satisfactory. Although the measles rash had disappeared there was no abatement of the fever and contitutional symptoms. The suffusion had disappeared from the conjunctivæ but the eyes had a clear, bright, and glassy appearance which was unnatural. There was still a considerable amount of restlessness and during the previous night (the 28th) he slept very little. The restlessness, moreover, was accompanied by a muttering delirium and while there was general nervous activity there appeared to be no cognisance of, or voluntary response to, surrounding influences. At times there was rolling of the eyeballs; the pupils were equal, moderately dilated, and reacted normally; the fundi oculorum appeared to be normal. There was no direct evidence pointing to a meningeal affection. Examination of the bones revealed nothing to account for the restless and delirium. The temperature had not been high since admission; only on one occasion, when it registered 103·2°, had it risen above 102°. The colour was said to vary from time to time; at one time he was flushed and at another pale and blanched. The respirations, while they did not vary much in rhythm, were at times somewhat laboured. The chest moved freely and equably on respiration; the percussion note was still normal throughout; at the left base and extending up to the angle of the left scapula and into the left axillary region there was an area over which the inspiratory part of the respiratory murmur was accompanied by an articulate crepitant râle. At no part, however, could the breathing be said to have a tubular quality. Pleural friction was distinct in the left axillary region. The upper part of the left lung and the whole of the right lung were free from signs which would indicate serious complication. The condition of the heart had not changed. The pulse was regular but soft and easily compressed and numbered 148. The tongue was parched and coated with a brown fur. The throat was still slightly congested. The bowels moved regularly and the stools appeared to be normal. The patient took his nourishment willingly.

On Oct. 1st the child's condition had become progressively worse. Delirium was still present, the restlessness was extreme, and the keen glassy appearance of the eyes at once attracted attention. The temperature was not high, ranging a short distance on either side of 102°. The colour was pale with occasional flushings. The respirations varied from 50 to 60 per minute; the evidence of pulmonary complication was now unequivocal; all over the left base the percussion note was dull and resistant and the respiratory murmur was replaced by extremely tubular and superficial breath sounds. An exploratory puncture was negative. All over the rest of the chest there were occasional moist and wheezing râles accompanying the respiratory murmur, but at no other part was consolidation detected. The area of cardiac dulness had not changed. The first sound was weak and somewhat indefinite in tone but the second sound was distinct and emphatic. The pulse was regular in force and rhythm but easily compressible and numbered 140 per minute. The patient was having ten minims of a 10 per cent. solution of camphor every four hours. He took his nourishment of milk and water willingly; the stools were loose and very offensive and contained undigested material; he was rapidly losing flesh and a diet of raw meat juice and whey had been resorted to. On the 3rd any change that had taken place had been for the worse; there had been progressive emaciation and the patient was now very weak. The delirium was still present but the restlessness was modified; the eyes had still their bright, sharp appearance; the pupils were equal and reacted normally and the fundi oculorum were normal. The tongue was dry and coated. The patient did not take his nourishment willingly and there had been occasional vomiting. The stools were very offensive and loose. A specimen of the urine was acid in reaction, contained a trace of albumin, but no blood or tube casts. The physical signs in the chest pointed to a rapidly advancing process. The whole basal region of the left lung was quite dull to percussion and the breathing in this situation was exquisitely tubular. Exploratory puncture again gave negative evidence. On the right side of the chest a resonant note was found throughout, although there was a relative increase in the resistance to the percussing finger, as examination was carried from the axillary region to the vertebral column. At the angle of the right scapula the respiratory murmur was replaced by breathing of a tubular quality and crepitant râle was abundant; these signs of consolidation were present all over the posterior aspect of the right lung, but diminished in amount in proportion to the distance from the inferior angle of the scapula. In the right axillary region pleural friction was heard. The area of cardiac dulness extended on the right to the mid-sternal line and on the left to the nipple line and upwards to the third rib. The first sound was toneless and at times the second sound was indistinct. The pulse was regular in rhythm but irregular in force and was very feeble even at the acme of its strength. It numbered 180 per minute. The patient died at 2 A.M. on the morning of the 4th.

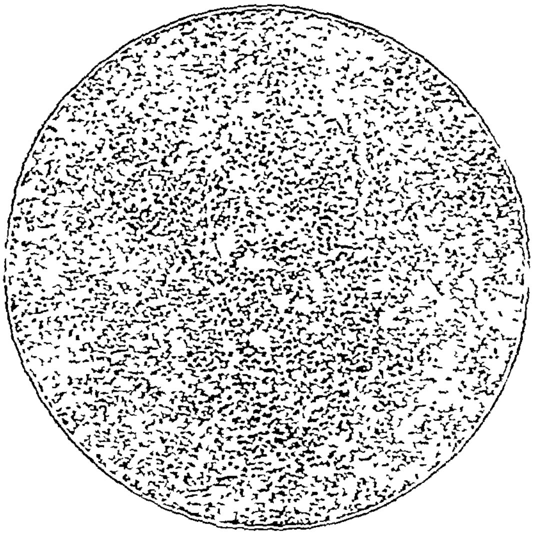
Summary of clinical history.—A child, aged one year and eight months, strong and well nourished and with a history of good health, was found suffering from an attack of measles associated with delirium. The rash appeared on the fourth day of illness and on that date, except for the delirium, there was nothing exceptional about the case. On the sixth and seventh days of illness the rash had almost gone, but the temperature had not settled and the child was very restless and delirious. Evidence of commencing pulmonary consolidation could be detected at the left base but the nervous symptoms were not such as one might expect at the beginning of an uncomplicated pneumonia with moderate temperature (102°). Examination of the nervous system and of the bones afforded no evidence of the presence of meningitis or osteomyelitis. On the ninth day of illness delirium was still present and consolidation at the left base was so advanced as to suggest the presence of fluid. The patient died on the eleventh day from the onset of the measles-symptoms and on the eighth day from the appearance of the rash and on the fifth day from the detection of the broncho-pneumonic signs. The most prominent features of the case were the persistent delirium with moderate temperature and the very rapid and advanced consolidation of the left pulmonary base.

Necropsy.—At the *post-mortem* examination the body was found to be well developed but poorly nourished, subcutaneous fat having almost entirely disappeared. The muscles were pale. There was slight congestion of the tonsils and pharynx but no evidence of ulceration. The mucous membrane of the larynx and trachea was greyish red, contained several ecchymosed patches, and was covered at parts with thin purulent secretion. There was no fluid in either pleural cavity. The left lung weighed eight and a quarter ounces; from its bronchus there exuded a quantity of thick creamy pus. The upper lobe with the exception of the atelectatic lingula was crepitant throughout, while the lower lobe was firm, œdematous, and non-crepitant. The upper lobe weighed one and three-quarter ounces, while the lower lobe weighed six and a half ounces and sank readily in water. The upper lobe had a pale greyish appearance except the lingula which was bluish-red. The lower lobe was dark red in appearance, presented numerous minute sub pleural hæmorrhages, and was covered in its posterior aspect with a thin fibrinous exude. On section the upper lobe, except for the lingula, was inflated throughout its extent. A small quantity of thin purulent secretion was present in the bronchioles. The lower lobe was quite hepatised and from the cut surface there exuded a bloody and serous exudate, while thick creamy pus could be expressed from the bronchial apertures. The right lung weighed four and a quarter ounces and floated in water. A thick muco-purulent secretion could be seen in the bronchus. On its posterior aspect there was a layer of fibrinous exudate and posteriorly the organ had a brownish-red appearance with areæ of lobular collapse, while anteriorly the lung was grey in appearance and crepitant throughout. On section, a narrow strip of consolidation bordered the posterior aspect of the lung, varying in thickness from one-eighth of an inch to half an inch, and thickest at the centre of the posterior aspect of the lower lobe. From the bronchi there could be expressed drops of creamy purulent material; the bronchial mucous membrane was deeply injected. The bronchial glands were large, pale, and soft. The pericardial sac contained about one and a half ounces of straw-coloured fluid. The heart was contracted; at the extreme left of the base was a small area, about half a square inch in extent, rough and coated with a fibrinous exudate. The left ventricle was empty, the left auricle contained some partly coagulated blood, and in the right chambers were large white moist fibrin clots. Close examination of the mural endocardium revealed the presence of small yellowish specks which were about one millimetre in diameter (Fig. 2). The valves and great vessels appeared to be normal. The cardiac muscle was pale and soft. The abdominal cavity was devoid of fluid. The liver weighed 16 ounces; it was brownish red in colour, with scattered pale areæ of about a quarter of a square inch in extent. Very minute yellowish specks from one millimetre to two millimetres in diameter were seen on the surface. The hepatic tissue was slightly congested and the gall-bladder was distended. The spleen weighed one and a quarter ounces. It was somewhat congested, of firm consistence, and the follicles were distinctly swollen. On the surface were seen minute yellowish specks, as in the liver and heart. The kidneys each weighed one and three quarter ounces. They were pale in appearance and the capsule came off easily. On the surface could be seen small yellow specks, rather larger than those in the liver and spleen, and section showed them to be minute abscesses. The cortex was yellowish-brown and the pyramids were pale. The mesenteric glands were pale, swollen, and soft. The stomach contained some greenish fluid and the mucous membrane, which was pale, was covered in parts with bile-stained slimy mucus. The skull appeared to be normal. The sinuses of the dura mater and the veins of the pia mater were distended with blood. The convolutions appeared to be distinctly flattened. The brain substance was soft, pulpy, œdematous, and anæmic, only the larger vessels containing blood. The ventricles were moderately distended and contained each about two ounces of clear serous fluid.

Bacteriological examination.—1. Film examination. Examination of smears from the bronchial exudate, pneumonic exudate, and spleen pulp showed the presence of Gram-staining micrococci, apparently staphylococci. 2. Cultural examination. Tubes of bouillon inoculated from the pneumonic exudate, spleen pulp, pericardial fluid, and cerebro-spinal fluid, and grown at 37° C., showed at the end of 24 hours growths of staphylococci. Separation cultures were made from the bouillon on to agar slopes and Petri's capsules and these presented colonies of staphylococcus aureus only. 3. Inoculation. From a fresh sub-culture of the growth in bouillon intra-peritoneal inoculation of a mouse caused death in 18 hours from septicæmia due entirely to staphylococcus aureus, and subcutaneous inoculation resulted in abscess formation with recovery.

Histological examination.—Histological examination of the tissue of the left lower pulmonary lobe pointed to an advanced inflammatory condition, commencing in the bronchioles. The smaller bronchi and bronchioles were filled with purulent and mucous material, together with desquamated epithelium and a few blood cells; the peri-bronchial capillaries and arterioles were very much dilated. (Fig. 1.) Some of the alveoli in the neighbourhood of the bronchioles showed the presence of a fibrinous exudate. The lung parenchyma, which appeared to be affected throughout, presented two kinds of changes: 1. Areæ in which there was dense purulent infiltration of alveoli, more especially in the neighbourhood of bronchioles. In addition to the numerous pus cells there were degenerate epithelial cells, a very few blood cells, and granular débris; the capillaries and arterioles were distended. 2. Areæ in which the changes were not so advanced; here the alveoli were small, the epithelium was swollen, with indistinct nuclei; there were numerous desquamated epithelial cells and granular débris; a few polymorphs and free blood cells were also present; the capillaries and arterioles were distended; the changes in these areæ corresponded exactly to the description given by Aufrecht of what he terms "alveolar atelectasis." Gram-Weigert stained sections showed, in addition to the fibrinous exudation in the alveoli near the bronchi, isolated cocci in the purulent contents of the alveoli and bronchi, and also

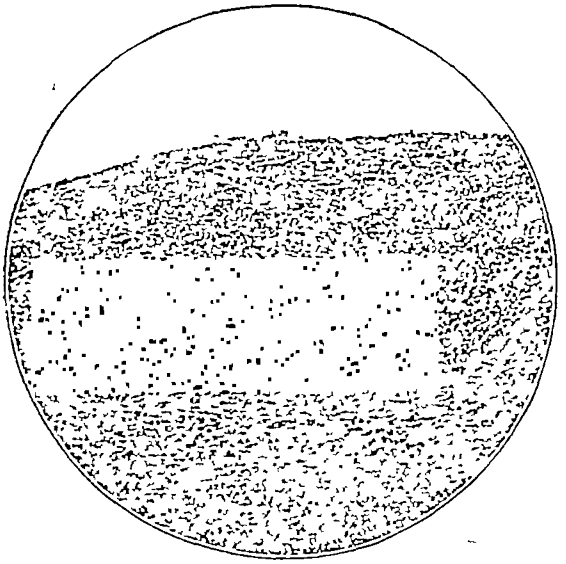
FIG. 1.



Bronchiole filled with purulent exudation. The surrounding pulmonary tissue is infiltrated and the peri-bronchial capillaries are dilated. × 100 Stain, hæmatoxylin and eosin.

groups of cocci in the arterioles (bronchial) and capillaries. Examination of the heart, liver, spleen, and kidneys showed, in addition to the cloudy swelling usually seen in acute febrile conditions, the presence of a large number of minute abscesses varying in size from one millimetre to two millimetres in diameter. Gram-Weigert stained sections showed cocci in these abscesses and, in addition, minute arterioles and capillaries plugged with staphylococci. The condition in the heart might be taken as representative of what is seen in the other organs. Fig. 2 shows a small abscess beneath the endocardium and Fig. 3 a capillary loop plugged with staphylococci.

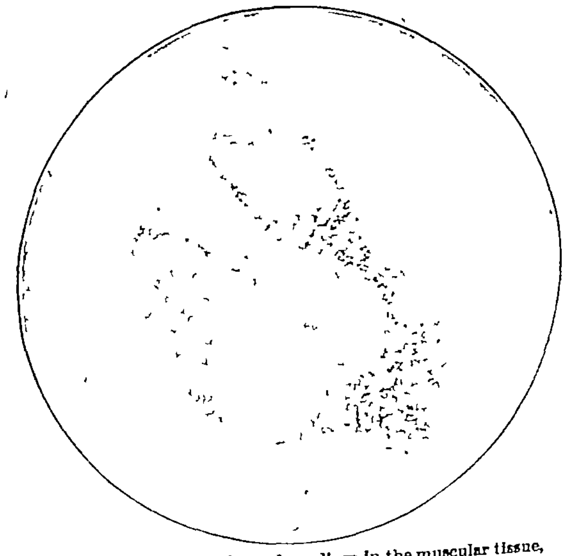
FIG. 2.



Small abscess beneath the endocardium, showing a limited purulent exudation with the remnants of a few muscle fibres. × 100. Stain, hæmatoxylin and eosin.

Conclusions.—The main interest of the case arises from the relation of the symptoms to the pathological findings. While in measles, especially in young children, a certain amount of nervous disturbance not infrequently accompanies a high temperature, with the decadence of the fever the nervous symptoms always disappear. A true meningitis has not been recorded as complicating the onset of measles. In broncho pneumonia, on the other hand, children often show signs of nervous disturbance; a commencing pneumonia is not infrequently associated with an appearance of nervous depression, the child being dull, languid, and apathetic, while in other cases there is a considerable restlessness. It is, however, in advanced and protracted cases that evidence of cerebral disturbance is most frequently seen; in such cases there is incessant restlessness, sometimes convulsions, and subsequent rigidity or paresis of muscles. These cases are usually fatal and on post-mortem examination no abnormality of the brain or meninges can be detected microscopically. In other cases, again, a pneumococcic meningitis with the usual signs and symptoms may complicate the broncho-pneumonia.

FIG. 3.



Capillary loop beneath the endocardium in the muscular tissue, plugged with staphylococci. × 1000. Stain, Gram.

The case under consideration presented evidence of nervous disturbance which, while it suggested meningitis, resembled more the extreme restlessness and delirium usually associated with acute osteomyelitis, acute phlegmonous cellulitis, or a very severe scarlet fever intoxication. The pathological examination, in view of the clinical symptoms, suggests the idea that there occurred in the lungs a severe inflammation the constitutional clinical manifestations of which resembled those of acute inflammation of bone or cellular tissue. The history of the case may be considered as (1) an inflammation due to the presence of a virulent form of staphylococcus aureus, beginning in the smaller bronchi and giving rise to the signs of a pulmonary consolidation; (2) the rapid progress and profuse infiltration and exudation giving rise to complete consolidation and atelectasis of the left lower lobe; and (3) the exalted virulence of the organism producing such a growth in the blood as to give rise to embolic infections of the various internal organs, leading to small abscess formations; and (4) the whole process resulting from infection by a highly virulent organism, the constitutional symptoms of intoxication overshadowed the effects of the local pulmonary lesion.

I am indebted to Dr. A. Johnston, physician superintendent of the Ruchill Fever Hospital, Glasgow, for permission to publish this case.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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A CASE OF TUBERCULOSIS PULMONALIS WITH SOME SYMPTOMS OF MENINGITIS; RECOVERY.

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THE patient was a man, aged 26 years, who was admitted into the Leeds Sanatorium for Consumptives on Oct. 3rd, 1905, suffering from pulmonary tuberculosis which involved the upper and middle lobes of the right lung. On admission he weighed 9 stones 11½ pounds and measured 5 feet 10¼ inches in height. His temperature at 4 P.M. was 99·2° F.; his pulse and respirations were respectively 78 and 20 per minute. His sputum measured about a quarter of an ounce daily; tubercle bacilli were present. There was marked dulness over the upper and middle lobes with bronchial breathing and whispering pectoriloquy; there were no râles. He was ordered to spend the whole day in the open air and his exercise was limited to one mile. He remained in this condition until Oct. 22nd, on which day his temperature varied from 100·2° to 101°; his pulse and respirations were respectively 80 and 18 per minute. His bowels were constipated. He complained of slight headache and vomited twice after food. On the 23rd his temperature varied from 99 2° to 102 8°; his pulse and respirations were respectively 80 and 18 per minute; his bowels were confined, his headache was more severe. On the 24th his temperature was still higher, reaching 105° at 4 P.M. The pain in the head was much increased; it was vertical in character, continuous, and at times was so acute that he cried out. He vomited after taking soda water and milk. His pulse was 80 per minute, full and bounding in character. At time she was slightly delirious. On the 25th it was noticed that there was an internal strabismus of the right eye and that the pupils were contracted, but reacted to light and accommodation. The patient himself complained that he did not seem to see rightly. Ophthalmoscopic examination, however, revealed nothing abnormal. His temperature varied from 104° to 105°. Constipation and vomiting were present. The patient remained in this state until Nov. 7th. The strabismus was now well marked and complete constipation and severe headache were present. Only milk in small quantities was administered and this was occasionally returned. Ice was kept to the head and enemata and calomel were given to overcome the constipation. The muscles of the legs and arms showed neither paralysis nor rigidity and there were no convulsions. No enlargement of the spleen was made out, neither was there any involvement of the sphincters. The temperature still remained between 103° and 105° and was controlled by tepid sponging. At times the patient was slightly comatose. Occasionally, especially towards morning, he broke out in profuse sweats. On Nov. 7th he became a little clearer mentally and his temperature was slightly lower, varying from 100° to 100·4°. The headache was not so severe but the squint was still well marked. On the 8th his temperature varied from 99·6° to 100°; his pulse and respirations were respectively 80 and 20 per minute. The squint was still present. His mental condition was much improved and he was able to take more nourishment. On the 9th the temperature varied from 99° to 100°; the pulse and respirations were respectively 80 and 20 per minute. The squint was not so marked and the bowels were opened naturally. From this date the patient improved rapidly each day, the squint gradually disappearing and the temperature becoming lower, until it reached normal on the 14th, by which time also the eye symptoms had quite disappeared. Examination of the chest showed that there had been no increase in the physical signs. He remained in the sanatorium until January, 1906, on which date he was discharged. He then weighed 9 stones 12 pounds, the temperature was normal, and there was no sputum; his chest signs were as on admission. He was last seen on March 6th. There was then no increase in the physical signs and no loss of weight. His temperature was normal and his eyes were perfectly normal.

I am indebted to Mr. Herbert de Carle Woodcock for permission to publish this case.

A SEVERE CASE OF MYOCLONUS MULTIPLEX.

BY CAMPBELL DYKES, M.B. LOND.,

CAPTAIN, I.M.S.

THE patient, who was a man, aged about 35 years—a Hindu and a Brahmin by caste—first came under observation in July, 1905. The muscular spasms of which he complained had then been noticed for five months. The left arm was first affected, then the neck, and later the right arm. When he was first seen the whole upper part of the body was in a state of constant jactitation, the arms were violently extended at the elbows, the spine was arched, the head was over-extended, and the shoulders were drawn back. Neither the patient nor any of his family had ever suffered from epilepsy or any other nervous disorder.

On the patient's admission to hospital the earliest stage of the disease was seen in the rectus and obliquus externus abdominis and the gluteus maximus and tensor vaginæ femoris of both sides. In these muscles momentary contractions of a limited portion of the muscle were seen to occur, occasionally single but more often in definite groups of four or five occurring together. The corresponding muscles of opposite sides were involved but did not contract synchronously. So far the patient was completely unconscious of this early stage of the disease. A much more advanced stage was illustrated in the upper limbs, neck, and back. At uncertain and variable intervals a muscle or group of muscles, such as the triceps, the trapezius, or one or more of the muscles attached to the vertebral border of the scapula, suffered a succession of contractions, following each other so rapidly that a more or less complete "tonus" was produced. The bulk of muscle affected here—in contradistinction to those first described—was so considerable that "locomotor" effects were produced: the forearm was forcibly extended on the arm and the head on the trunk, the trunk itself was arched backward, and the shoulders were drawn back. When the attack was at its height several or all of these effects were produced together or followed each other in rapid but irregular sequence. Each contraction appeared to last two or three minutes, then followed a short period of rest, then a fresh series of contractions, till apparently sheer exhaustion of the muscle brought temporary relief. The flexor muscles of the arms and the deltoids as also all the muscles of the forearm remained unaffected. The pectorals were for a long time unaffected but have recently shown the partial contractions described in the case of the abdominal muscles.

The muscles of opposite sides of the neck and trunk usually act coördinately producing extension directly backwards, but occasionally one sterno-mastoid contracts alone and lateral flexion of the lumbar spine has been recently noticed to occur. Voluntary movements of the upper part of the trunk and upper limbs are naturally much interfered with but can be fairly accurately executed if they require but momentary effort. There is no true ataxy. The gait is affected only indirectly. It remains but to notice that while the extrinsic muscles of the eyeballs have escaped, the orbicularis palpebrarum shares in the spasms which during their continuance can only be momentarily checked by voluntary effort so as to allow of a single glance being directed at an object. Extraordinary facial contortions are produced by irregular contractions of the lip and face muscles.

The patient himself believes that the movements are less violent when he is lying down than when he is sitting or standing, but I cannot satisfy myself that this is so. The movements cease entirely during sleep and his general health is unaffected except by the painful fatigue which results from the muscular contractions. The knee-jerks are exaggerated. There is no ankle clonus or any affection of sensation.

Of late the disease has begun to affect some fresh muscles, the hamstrings, pectorals, temporals, and masseters, and during the eight months that he has been under observation the abdominal muscles, of which at first only small segments suffered, have become more severely affected. Great relief has been experienced from the use of preparations of belladonna, whether administered internally in the form of the extract or hypodermically as a solution of atropine, and from the application of the constant current to the spine. The amelioration, however, is very temporary, lasting only for two or three hours or less. No benefit has resulted from the use of arsenic or bromide, though pushed to the limit of toleration.

Shortly after the onset of the disease the patient began to take opium but although he has taken as much as 24 grains a day no good effect can be attributed to it. In spite of the temporary mitigation of symptoms by treatment, the disease shows a distinct tendency to increase both as to violence of movement and as to the groups of muscles involved. Appetite and sleep remain unimpaired as yet but the patient finds his condition so miserable, partly from his inability to follow any of his ordinary occupations or even to feed himself without great difficulty and partly from his having become an object of ridicule or aversion to his neighbours, that he has already once attempted suicide by throwing himself into the Ganges.

Fatehgarh.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BRADFORD ROYAL INFIRMARY.

THREE CASES OF MYELOID LEUKÆMIA.

(Under the care of Dr. H. J. CAMPBELL.)

FOR the notes of the cases we are indebted to Dr. A. W. Falconer, house physician.

CASE 1.—A man, aged 26 years, was admitted to the Bradford Royal Infirmary on March 28th, 1906, under the care of Dr. H. J. Campbell. For some weeks he had not been feeling well and had been treated by his medical man for debility. A fortnight before admission he was suddenly seized with severe pain in the back of the head and dizziness. He had to go to bed on account of the pain and in the course of a few days he became quite deaf and was unable to walk on account of staggering. After the first day the pain in the head left him. He had no vomiting. There was no history of any hæmorrhages or of pain in the abdomen. On admission the temperature was 100° F., the pulse was 100, and the respirations were 20. He was a fairly nourished man, not markedly anæmic, and his mental condition was quite bright, but he was absolutely deaf. There were a few of the inguinal glands as large as peas and one or two of the cervical glands were also palpable. There were no tenderness over the sternum or the long bones and no skin changes. With regard to the abdomen there was splenic dulness in the nipple line from the sixth rib to the level of the umbilicus. Anteriorly the spleen extended to within two inches of the umbilicus and posteriorly filled the left lumbar region. It was quite smooth and hard, not tender, and moved freely between the hands. The liver dulness extended from the sixth rib to two inches below the costal margin in the nipple line. It was quite smooth and not tender. As to the mouth, the tonsils were not enlarged and the mucous membrane was normal. With regard to the nervous system, the cranial nerves, with the exception of the second and eighth, were normal. There was intense double optic neuritis in both eyes; the swelling of the right disc was + 7 and of the left + 6 dioptres. In both macular regions were several small greyish-white more or less circular patches about one-sixth of the size of the optic disc. These were not raised and had a peculiar half-veiled appearance. In the periphery of both fundi were numerous dead white patches, many of them larger than the disc. They had a granular appearance and were distinctly raised, covering in many places the retinal vessels. There were also numerous hæmorrhages throughout both fundi. Hearing was quite absent in both ears. There was no bone conduction but some tinnitus. As to the limbs there was no paralysis or rigidity; the superficial, deep, and organic reflexes were normal, and sensation was normal. The gait was very markedly staggering, the patient being unable to walk alone. He seemed to have had more tendency to fall to the right than to the left. The heart, the lungs, and the urine were normal. An examination of the blood showed: hæmoglobin, 50 per cent.; red cells 2,350,000 and white cells 845,000 per cubic millimetre; myelocytes, 56·4 per cent.; polymorphonuclear neutrophiles, 38·2 per cent.; eosinophiles, 4·4 per cent.; lymphocytes, 0·8 per cent.; mast cells, 0·2 per cent.; and there were numerous nucleated red cells. On the second day after admission the temperature fell and remained normal till the fourth day, when the patient became aphasic and died within an hour. No post-mortem examination was obtained.

CASE 2.—A boy, aged six years, was admitted to the Bradford Royal Infirmary on March 22nd, 1906, under the care of Dr. Campbell. The patient had not been well for some months. He had no definite pain but did not care to run about. He had been attended by a medical man for six weeks for anæmia. There was no history of any hæmorrhages. He was a poorly nourished boy and was very markedly anæmic. There were numerous small glands in both inguinal regions and in the cervical regions on both sides. The glands were of about the size of small peas, moderately hard, discrete, freely moveable, and not tender; there was no tenderness of the sternum or of the long bones. The spleen was enormous. The dulness began in the nipple line at the sixth rib and extended into the abdomen, crossing the middle line one inch above the umbilicus and extending one and a half inches to the right of the middle line at the level of the umbilicus. From there it curved down to the left to the pubes and seemed to extend into the pelvis. Posteriorly it filled the whole left lumbar and inguinal regions. The liver extended half an inch below the costal margin. The nervous system was normal. The fundus oculi was normal There were hæmic murmurs at the base and the apex of the heart. A blood count on March 29th showed: hæmoglobin, 45 per cent.; red cells 2,260,000 and white cells 146 970 per cubic millimetre; myelocytes, 36 per cent.; polymorphonuclear neutrophiles, 47 per cent.; eosinophiles, 5 per cent.; lymphocytes, 2 per cent.; and mast cells, 10 per cent There were a fair number of nucleated red cells. Another count on April 6th showed: hæmoglobin, 45 per cent; red cells 2.220,000 and white cells 71.871 per cubic millimetre; myelocytes, 38·4 per cent; polymorphonuclear neutrophiles 45·2 per cent.; eosinophiles, 4·4 per cent.; lymphocytes, 4·8 per cent.; and mast cells, 7·2 per cent. The patient only remained a fortnight in hospital when he was taken away by his parents. His temperature rose to between 100° and 101° F. at night and his general condition remained much the same.

CASE 3.—A woman, aged 35 years, was admitted to the Bradford Royal Infirmary on Dec. 9th, 1905, under the care of Dr. Campbell. 12 months before admission the patient noticed a swelling in the left side. In May of this year she was an in-patient at the hospital with myeloid leukæmia. She remained in until July and was treated with the x rays. During the treatment the spleen, which extended below the umbilicus, rapidly disappeared till it could not be palpated. The blood condition showed little change. After leaving hospital the patient felt fairly well, but after about two months the spleen began to grow again. On admission the patient was found to be fairly nourished. There were no enlarged glands felt; the spleen extended to the umbilicus and to within one inch of the anterior superior iliac spine. An examination of the blood on Dec. 15th, 1905, showed: hæmoglobin, 45 per cent.; red cells 3,486,000 and white cells 191,666 per cubic millimetre; myelocytes, 35·9 per cent.; polymorphonuclear neutrophiles, 60·3 per cent.; eosinophiles, 1·5 per cent.; mast cells, 0·8 per cent.; and lymphocytes, 2·5 per cent. The patient was exposed to the x rays over the splenic region for ten minutes three times a week. She was treated for three months and at the end of that time she went home *in statu quo*, the spleen not having diminished and the blood count being: hæmoglobin, 40 per cent.; red cells 3,800,000 and white cells 196,875 per cubic millimetre.

Remarks by Dr. FALCONER.—It seems justifiable to call Case 1 a case of true acute myeloid leukæmia. There was no history of any discomfort for more than six weeks before the fatal issue. The size of the spleen is, perhaps, somewhat against it, but though it extended to the level of the umbilicus it was not a very large spleen, most of the enlargement being downwards and not nearly to the same extent transversely. The nervous symptoms resembling Ménière's disease are also uncommon in myeloid leukæmia. The occurrence of definitely raised white spots in the retina according to Lazarus,[1] though not infrequent in lymphatic leukæmia, has not yet been described in myeloid leukæmia. The blood was that of typical myeloid leukæmia except that the percentage of mast cells was rather low. Case 2, of myeloid leukæmia in a child, is also extremely rare, there being only six cases in the literature. It presented no features differing from myeloid leukæmia in the adult. I am indebted to Dr. Campbell for permission to publish these cases.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Achondroplasia.

A MEETING of this society was held on May 8th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. GUTHRIE RANKIN and Mr. ERNEST O. MACKAY, in a paper on Achondroplasia, said that the disease, though comparatively recently recognised, was of ancient origin. Mr. George Pernet had pointed out its illustration in the Egyptian statues of the British Museum, notably the god Ptah, and Charcot and Richet had shown that the dwarfs of Philip IV., painted by Velasquez, were probably achondroplasiacs. It had escaped notice largely because most children suffering from the disease were stillborn or did not long survive birth. The survivors were formerly looked upon as examples of either cretinism or rickets. The earliest record was Sömmering's case, published in 1791, which he left unclassified. Busch in 1836 published a second which he called congenital rachitis. But it was the observations of Müller, published in 1860, which showed that the disease was one of primordial bone cartilage and that the inhibition of the growth of the long bones, one of its prominent characteristics, was due to a disturbance of the normal arrangement in rows of the proliferating cartilage cells. The early confusion with "fœtal" rickets was traced in the papers of Shattock, Barlow, and others, and was illustrated by a reproduction of an engraving in Liston's "Surgery," published in 1840 of a skeleton which exhibited the distinctive landmarks of achondroplasia and which the author referred to as a "curious case of congenital rickets." The general appearance of an achondroplasic child was characteristic. He was a dwarf, with large head, pug-shaped nose, short and often bowed limbs, a prominent abdomen, and marked lordosis. The figure was stunted by shortening of the legs out of proportion to the size of the trunk. The arms were also short and the finger tips never reached the level of the hips. The limbs, besides being short, were usually bent and deformed. The central point of the body was above the umbilicus and might be as high as the ensiform cartilage. The abnormal size of the head was caused by undue development of the vault of the cranium There were recession of the base of the nose and prognathus, produced by premature synostosis of the basilar and sphenoid bones, giving rise to deficiency in length of the base of the skull. The lips and eyelids were thickened and, from excess of subcutaneous tissues, there was exaggeration of natural dermal folds. The tongue might be enlarged and protruding. The hair and skin were natural. The fingers and toes were short and spatulate. The hands were fore-shortened and fat with fingers of equal length which tapered to their extremities and separated at the middle phalangeal joints, especially the middle and ring fingers. The shortened bones were thickened transversely and more or less enlarged at their ends, but the change seemed to arise in the diaphyses rather than the epiphyses, which were altered in some cases only. The bones formed in membrane or developed from cartilage late in uterine life were unaffected. The mental faculties remained unimpaired. The etiology was uncertain; it had been attributed to syphilis, heredity, and consanguinity of the parents—all on insufficient evidence. It was an early "disturbance of metabolism in some unknown way." Calcification proceeded normally, as did periosteal bone formation, but growth in length might be interfered with or stopped by a periosteal inclusion attributed to an "outgrowth of the epiphysis beyond the peripheral diaphysial line, causing an involution of periosteum, which subsequently proliferates" The stunted long bones, the shape of the hands, the lordosis, the sunken nose, the high mid-point of the body, and the congenital origin were leading features of achondroplasia distinguishing it from rickets. In cretinism the mental feebleness, vacant expression, vicious habits, and trophic changes of skin and hair were all differentiating features.

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[1] Nothnagel's Practice of Medicine, American edition, 1905.

Dr. HOWARD H. TOOTH said that he did not think the term "lordosis" should be applied to the deformity present in the patient exhibited; the buttocks were unduly prominent and there was a hollow immediately above them, but the back and spine were quite straight and showed no true lordosis.

The PRESIDENT pointed out that the spine in the skeleton shown in the reproduction of the engraving was quite straight and he thought that the apparent lordosis was due to two factors: first, to the tilting of the pelvis, and secondly, to the protuberant abdomen which was due to the flaccidity of the abdominal muscles. He considered it probable that there was a rickety condition added to a congenital deformity.

Mr. STEPHEN PAGET did not think that the nasal bones were deficient and was of opinion that the flattening of the nose was not more than might be seen in normally developed children. Arrested growth of the nasal bones was not uncommon in children and gave rise to a pug shaped nose.

Dr. RANKIN replied.

OBSTETRICAL SOCIETY OF LONDON.

Epithelioma of the Vulva.—Laminaria Tents.—Exhibition of Specimens.

A MEETING of this society was held on May 2nd, Dr. W. R Dakin, the President, being in the chair.

A short communication on Three Cases of Epithelioma of the Vulva with the history subsequently to operation was read by Dr. A. H. N. LEWERS: 1. A multipara, aged 47 years, had a malignant growth—squamous carcinoma—removed from the right side of the vulva on Dec 7th, 1896, and the glands in the right groin were removed at the same time. A small growth reappeared on the left side of the vulva about two years later and was removed in December, 1898. In January, 1899, the glands in the left groin were removed. A small growth reappeared on the left side of the vulva and was removed on March 9th, 1901. Since that time the patient had remained quite well. She was examined and found free from recurrence on March 8th, 1906—over nine years since the first operation and almost exactly five years since the date of her fourth and last operation. 2. A multipara, aged 52 years, had a malignant growth—squamous carcinoma—of the clitoris removed on Sept. 1st, 1899. The glands were at the same time removed from both groins. The patient was known to be well and free from recurrence on March 11th, 1906. 3. A multipara, aged 34 years, was operated on for a malignant growth—squamous carcinoma—of the vulva on March 31st, 1905. She was eight months pregnant at the time. Labour came on four days later and she was delivered naturally of a living child. On May 4th the glands in both groins were removed. The disease rapidly recurred in the same place and the growth was again removed on June 20th. The growth again recurred soon afterwards and she underwent the x ray treatment from August 11th to Sept. 9th without benefit. She died about three months afterwards. Attention was directed to the fact that local recurrence in cases of epithelioma of the vulva was not necessarily of unfavourable significance, as illustrated in the first case. Case 3 was remarkable in being an example of epithelioma of the vulva occurring in a patient no more than 34 years of age and in being complicated by pregnancy. In this case the growth ran an exceedingly rapid course, which might possibly have been due partly to the pregnancy and partly to the fact that the patient was only 34 years of age; Dr. Lewers considered that removal of the growth by Paquelin's cautery was a better method than removal by the knife. The specimens from Cases 1 and 2, in which the disease did not recur, together with sections of the growth, were exhibited.—Mrs. STANLEY BOYD referred to cases on which she had operated for epithelioma of the vulva in which 11 and nine years had elapsed without recurrence after a second operation. She preferred removal of the growth by the knife, with suture, to Paquelin's cautery.—Dr. HERBERT R. SPENCER referred to cases that he had operated on, one remaining well for eight and a half years and another for three years. In another case several operations had been performed and the patient now, 13 years after the first operation, had recurrence in the pelvic glands. He advocated removing the whole of the vulva in order to get rid of the leukoplakial skin.—Dr. J. INGLIS PARSONS having advocated removal by the cautery, Dr. LEWERS replied.

Sir WILLIAM J. SINCLAIR then gave a demonstration on the Use of Laminaria Tents. He showed a large number of specimens of the material from which the tents were made, illustrating the various stages in their manufacture. The specimens of laminaria exhibited were obtained from islands on the West Coast of Scotland, from Coll and Iona and others. He considered the laminaria from the district mentioned was superior to that hitherto in the market. He had observed with regret how much the use of laminaria tents for dilating the cervix had gone out of fashion, as he considered dilatation by the use of tents far superior to that obtained by the use of rapid dilators. Very serious results were liable to be produced by rapid mechanical dilatation, more especially in the hands of those with little gynæcological experience.—Dr. HEYWOOD SMITH said that larger tents were made by pegging together sections of the material, a process which might cause irregular dilatation or even lead to breaking up of the tent. He was glad to see from the specimens shown that it would be possible to obtain tents as large as could be wanted in a single piece.—Dr. AMAND J. M. ROUTH had had an opportunity of testing the tents and had found them quite as good as those sold in London.—Dr. R. BOXALL remarked that the main objection offered to the use of tents was the inherent possibility of infection, but by dry heat laminaria tents could be not only sterilised but improved in quality, a process which could be accomplished, if necessary, in the domestic oven.—Dr. G E. HERMAN did not think laminaria was as much out of fashion as Sir William Sinclair supposed. It had been used for 30 years or more in the London Hospital. He did not like tents made of several pieces of laminaria glued together, for the glue was very possibly septic He was surprised to hear anyone say that the dilating force of laminaria was weak, for Matthews Duncan had shown that laminaria was capable of exerting a force of 640 pounds to the square inch.—Dr. PARSONS thought that, on the whole, dilatation with metal dilators was preferable to dilatation by tents —Mr. W. GANDY said that some years ago he used nothing else but tents to dilate the cervix and he felt that with ordinary care no harm could befall the patient.—Dr. Spencer was surprised at Sir William Sinclair's statement that laminaria tents had gone out of fashion. They had been used continuously at University College Hospital for the last 25 years. He could not imagine that any gynæcologist would dilate a rigid senile cervix in order to explore it with the finger by rapid dilatation.—Dr. Lewers said that it was important to bear in mind the degree of dilatation of the cervix required in choosing between dilatation by the rapid method or dilatation by laminaria tents. In many cases it was certainly impossible to dilate the cervix sufficiently to allow of the introduction of the finger into the uterus by the rapid method without causing laceration. It had to be borne in mind that when a laceration occurred it could not be limited in any way at the will of the operator. It might be a slight and unimportant laceration or it might extend right through the uterus into the broad ligament or peritoneal cavity. As a rule, Dr. Lewers used tents the day before he required exploration, and then, under an anæsthetic, if necessary passed a few sizes of Hegar's bougies.

Dr. Lewers showed two specimens of Large Uterine Fibroids undergoing necrobiosis, or red degeneration

Dr. F. J. McCann showed (1) Cervical Fibroid; (2) Broad Ligament Cyst with torsion of the pedicle; (3) Primary Cancer of the Vagina; and (4) Sarcoma of the Vagina.

Dr. W. W. H. Tate showed a large Fibroid.

Dr. Parsons exhibited a Fibro-myoma of the Vulva in an unusual position.

HUNTERIAN SOCIETY.

Discussion on Syphilis.

A meeting of this society was held on April 11th, Mr. John Poland being in the chair.

Mr. Jonathan Hutchinson opened the discussion with a reference to the mortality from syphilis. This reached a maximum in 1875—viz., 2140, against 1834 in 1904, although allowing for increase of population the figure should be 3000. Not only was the disease on the decline but it was generally considered to be milder in type as a result of more effectual treatment. Judd and his followers (1835–38) obtained excellent results without mercury, using iodide of potassium, but the use of this drug securely established the mercurial treatment and led to a better knowledge of the precise uses of both of them. A century since all venereal sores were treated by mercury. When the non-syphilitic nature of many such sores was recognised mercury was withheld until secondary symptoms were manifested, and this period of withholding mercury coincided with the increased mortality. Lastly, when the small dose plan was introduced, mercury was robbed of its terrors and was employed at the earliest moment with a view to the suppression of the secondary stage. Ptyalism is objectionable and injurious. As much mercury as can be borne should be introduced into the blood. Everything that mercury could do could be conveniently effected by the one grain grey powder pill with Dover's powder taken from three to seven times daily. Mr. Hutchinson advanced the following propositions. 1. It was now almost universally acknowledged that mercury ought invariably to be given in the primary and secondary stages of syphilis. 2. That the earlier it was begun the better, provided the diagnosis be certain. 3. That it was possible to prevent entirely and to anticipate the secondary symptoms, an opinion which he had advocated for 25 years. 4. That the suppression of the secondary stage to a large extent prevented tertiary symptoms which were developed in the actual site of the secondary manifestations. 5. That many chancres were sufficiently characterised to justify immediate treatment. 6. That as much mercury should be given as the patient could bear, avoiding diarrhœa and ptyalism. 7. That continuous treatment was much preferable and should extend over at least 12 months. 8. That at this stage the object was to kill the parasite. In the tertiary stage the destruction of the parasite was no longer the object of treatment. Tertiary changes were often single, very rarely indeed general, often restricted to one organ or one tissue, and there was no reason to regard them as of blood origin, whether toxic or otherwise. The parasite was, in fact, no longer existent. 9. That tertiary symptoms were commonest where early treatment had been delayed or inadequate. 10. That there was good reason to believe that syphilis was becoming less prevalent and less severe in Britain and that this was largely due to the widespread adoption of the long-continued and small-dose method of treatment. 11. That the inunction and calomel vapour-bath methods were both efficacious but inconvenient and expensive and liable to be prematurely discontinued. 12. That intramuscular injections were very dangerous, excepting in the hands of the expert, and should be wholly reserved for special conditions, chiefly in the army. If salivation commenced it could not be stopped except by the excision of the portion of muscle containing the mercury. 13. That tertiary symptoms were (*a*) inflammatory; (*b*) degenerative; or (*c*) gummatous; and that the iodide of potassium internally, and iodoform, iodol, and chinosol externally, were specifics and often produced permanent cure of gummatous growths. Degenerative changes such as tabes were, on the other hand, rarely arrested by specifics. All conditions attended by inflammatory changes, such as general paralysis of the insane, should be treated by small doses of mercury continued permanently. In his belief, if treatment of general paralysis were commenced in the very early stage, a cure might be obtained, but small doses of mercury must be permanently continued. 14. Tuberculosis sometimes complicated tertiary syphilis. Syphilitic lupus was a combination of the two and some "relapsed chancres" were tuberculous. 15. With reference to marriage, if the treatment had been continued for two years from the date of the chancre, a man might safely marry, but a much longer period was necessary for a woman. 16. As regards inheritance a man with tertiary symptoms might have quite healthy children. Syphilis could not be transmitted to the third generation. The fact that younger children in syphilitic families were free from the syphilitic taint and were well grown and robust was opposed to the belief that the disease, when incapable of transmitting its characteristic symptoms, might still cause arrest of development. Nor was syphilis an appreciable cause of degeneracy of the race. The Fijians, who had had syphilitic frambœsia from time immemorial, were not a degenerate race. Mr. Hutchinson concluded by mentioning a supposed fact for which he knew no explanation. Why was syphilitic infantile iritis, and to a less degree keratitis, more common in female infants than in males? They knew little of differences in the character of the disease as affected by sex and by inheritance from the father as compared with the mother.

Dr. G. H. Savage mentioned, first, the occasional occurrence of acute mania in syphilitic fever, as in alcoholism and influenza. With reference to the effects of syphilis on neurotic and non neurotic persons statistics showed that the former were liable to tabes whilst the general paretics were, as a rule, non-neurotic. Dr. Savage agreed with Mr. Hutchinson that treatment had altered the character of syphilis. Gummata had become comparatively rare in post-mortem experience. On the other hand, there was a certain number of cases of acute mental disorder, associated with cranial nerve symptoms, hemiplegia, or epilepsy, which followed acute syphilis and which might possibly depend upon a gumma. More chronic mental disorders, with similar local manifestations, might also result from syphilis. Some went on to general paralysis of the insane which under Mr. Hutchinson's continuous treatment might not occur. Many cases of general paralysis showed an early history of temporary aphasia or monoplegia which were forgotten after perhaps brief treatment by iodides. Early syphilitic changes might affect any part of the nervous system. There was also a more general and diffuse disorder of the cortex associated with syphilis. For example, cases of marked hysteria in middle-aged men who had had syphilis in former years, although they might temporarily recover, usually end in general paralysis. A large number of general paralytics with a syphilitic history commenced as ataxics, the ataxy preceding the paralysis by some years. Progressive mental degeneration might be associated with syphilitic endarteritis. The nutrition of any part of the brain might be interfered with, with alteration in the balance of mind, ending invariably in dementia. Dr. Savage pointed out that the memory was not markedly affected in these cases; sometimes, as in advanced stages of general paralysis, there was a quite remarkable retention of memory, whilst in other forms of progressive mental decay, associated with alcoholism or senility, the loss of memory was the chief characteristic. With reference to the causation of general paralysis, it had been pointed out that among certain races—the Arabs and perhaps the Japanese—syphilis might be prevalent and general paralysis very rare. It was also said to be unknown amongst.

Negroes and amongst the Irish. In Dr. Savage's opinion syphilis required something more in order to produce this disease, alcoholism, worry and the stress of life, and perhaps large meat-eating. Fewer women than men were affected. It rarely came on within ten or 12 years, more frequently between 15 and 20 years after primary infection. Mental symptoms, insane interpretations, might also be associated with syphilitic locomotor ataxy. On the psychical side, Dr. Savage referred to syphilophobia of adolescents and the more dangerous syphilitic hypochondriasis of middle aged and older men. In the latter condition the patient might have some "stigmata" of old syphilis, giving rise to various beliefs and delusions. One class of patients believed themselves to be shunned or insulted. These were often suicidal. Others believed themselves centres of contagion and were intensely suicidal or homicidal.

Dr Purves Stewart pointed out that in many cases syphilis of the central nervous system was, so to speak, accidental and affected the non-nervous tissues and only secondarily the nerve elements. Thromboses, aneurysms, and gummata did not spring from nerve tissue, although the symptoms were nervous. This class of disease was not at all confined to the tertiary period but might occur at any stage, even when the chancre was still present. In another class of syphilitic nerve disease the nerve elements underwent primary dystrophy with production of sclerosis, which was a secondary change. Syphilitic spastic paraplegia, in which the bladder symptoms were prominent, might belong to this class. This often developed within a year of infection. Tabes and general paralysis might be regarded as two varieties of one disease, a syphilitic affection of nerve elements. Dr. Stewart then described the results of his own observations on the cerebrospinal fluid. A microscopic field from centrifugalised normal fluid contained perhaps one or two endothelial cells and as many leucocytes. In functional nervous diseases, in epilepsy, paralysis agitans, and disseminated sclerosis the cerebro-spinal fluid was apparently normal. With organic diseases of the nervous system, acute microbic meningeal affections, and suppurative diseases of brain or membranes, the fluid contained polynuclear leucocytes. In the case of chronic nervous affections, tuberculous and syphilitic, there was always great excess of lymphocytes, usually monomorphic. In syphilis without nervous affection there was no excess. In gummatous affections of the nerve centres the excess was marked but in tabes and general paralysis the leucocytosis was constant and extremely well marked, the average being 130 to the field. The presence of leucocytosis was of great diagnostic importance, for example, as between tabes and peripheral neuritis and between general paralysis and epilepsy. In order to exclude syphilis of the nervous centres it was not necessary now to suspend judgment pending the use of iodide and mercury.

Dr. W. Hale White said that our knowledge of visceral syphilis dated from the paper of Sir Samuel Wilks in 1863. It was an interesting fact that, with the possible exception of the heart, syphilitic endarteritis in the viscera was not of any clinical importance and was, in fact, not met with, which was in striking contrast to its great importance in the nerve centres. Another syphilitic affection of the viscera—lardaceous disease—was now much less frequently met with, as a result of improved surgery and also, no doubt, of the declining severity of syphilis. Congenital syphilis occasionally produced marked lardaceous disease. In syphilitic laryngitis specific treatment was often useless unless the part was rested by tracheotomy. Abductor paralysis might be the earliest indication of tabes. Syphilitic ulceration or stenosis of the trachea might be met with apart from laryngeal affection and usually occurred near its bifurcation with impaired entry of air in one lung. Syphilis of the lungs was excessively rare and the diagnosis was not justified. The frequency of congenital syphilis of the lungs had been enormously exaggerated. No museum in London contained a specimen of it and he doubted if such a condition existed. The acquisition of syphilis usually greatly accelerated phthisis, whilst it was also true that a syphilitic patient was more liable to phthisis than others. In the heart gummata were rare and the diagnosis a bold one. The late Dr. C. H. Fagge had shown that a large proportion of the cases of fibroid disease of the heart were syphilitic, and that there was a peculiar liability to sudden death in this affection. Since Dr. Fagge's paper in 1874, 11 cases of sudden death due to this disease had been recorded at Guy's H [illegible] f which five were syphilitic. The fibrosis sh [illegible] for in the inter-ventricular septum. With reference to valvular disease he (Dr. Hale White) held that the aortic valves were rarely affected alone in rheumatism. Therefore cases of aortic without mitral disease might be attributed to atheroma, or strain, or syphilis; and in women, as strain was rare, aortic disease was strong evidence of syphilis. The same applied to aneurysm. Dysphagia was sometimes due to syphilitic ulceration of the pharynx or the œsophagus. Gummata were almost unknown in the stomach and intestines, but syphilitic ulceration and stricture occasionally occurred in the rectum in women, with symptoms of chronic obstruction. In the liver syphilis occurred as gummata or fibrous bands but was far less common than formerly. It was never accompanied by jaundice. In syphilis the liver was seldom so large and uneven, and seldom increased in size so rapidly as in malignant disease. Congenital syphilis produced a similar condition. He agreed with Mr. Hutchinson that the largest gummata of the liver were curable. That was about the only form of visceral syphilis in which a diagnosis was commonly made, because the other conditions were so rare.

Dr. Hale White exhibited a beautiful selection of specimens from the Guy's Hospital museum illustrating the various conditions which he had described.

Mr. T. P. Beddoes said that the essential factor in the Zittman treatment appeared to be heat, the patient being kept in a small room at 80° F., and connected this fact with the slight incidence of tabes and general paralysis in hot countries. He doubted whether alcohol had much part in the causation of the latter diseases as there seemed to be no difference in their occurrence in Turkey, where many of the population were teetotalers, and in Brazil where there was much alcoholic excess. Both Brazil and Turkey have much syphilis and in both countries tabes and general paralysis are extremely rare.

The adjourned discussion was continued on April 25th, Dr. F. J. Smith, the President, being in the chair.

Dr. Theodore Shennan described and demonstrated Spirochætæ in Syphilitic Lesions. Two spirochætæ were found commonly in the lesions of primary and secondary syphilis—viz., the spirochæta pallida, which many thought was the cause of syphilis, and the spirochæta refringens, which was specially found in ulcerated lesions and had already been described as a saprophyte in various secretions and tissues. The spirochæta pallida was more delicate than refringens, possessed closer spirals, showed more motility, and was more difficult to detect and to demonstrate. It had been found in congenital syphilis, in the organs and blood, as well as in the acquired disease, but, according to most observers, never elsewhere and never in tertiary syphilis. It was also found in experimental syphilis in the monkey. Certain loop-shaped bodies which seemed to have some relationship to the development of a spirochæta form were then described. These were to be found commonly in skin lesions and in indurated buboes. Dr. Shennan concluded with a lantern-slide demonstration and showed microscopical specimens with the parasite *in situ*.

Dr. G. F. Still alluded to the occasional occurrence of acquired syphilis in children, which had been stated to be highly contagious. Contrary to the opinion of some recent writers, he held that the risk of contagion from the inherited disease was very small. Among a large number of children he had never known one case of infection, although such cases had been reported and the spirochæta had been found in the bullæ of syphilitic pemphigus of the newly born. In addition to the very considerable mortality from stillbirth and miscarriage, there was incapacity in the survivors, from keratitis, iritis, and nerve affections. As many as 10 per cent. of the children showed some nervous affection. A large proportion of idiots were, in Dr. Still's opinion, syphilitic and some children with inherited syphilis, at first bright and intelligent, showed mental deterioration in the second period of life, between six and 12 years of age, became dull and perhaps epileptic and demented, sometimes greatly emaciated and dying from exhaustion. In these cases chronic meningitis and extensive sclerosis of the cortex were found. A proportion of congenital hydrocephalus, of paraplegias and diplegias was also due to congenital syphilis and the same cause accounted for many cases of fatal convulsions, and perhaps epilepsy. In certain families the nervous tissues, viscera, or bones would appear to be especially liable whether to tuberculosis or to syphilis. The undesirable term "parasyphilitic" was founded on the very doubtful theory that a non transmitted syphilis had influenced development and implied a specific origin which

d not only by constitutional changes but also by alteration in the physical signs. As a proof of local in pulmonary tuberculosis he observed that in chronic ior to inoculation the bacilli were extracellular while oculations phagocytosis could be seen. He pointed t possibly watching the phagocytic index in the sputum e used as a general guide for inoculation. In acute ary tuberculosis phagocytosis in the sputum was n. He held that tuberculin treatment in selected cases e practised in conjunction with sanatorium methods.—ES BARR related the case of a young woman who had der the care of Dr. Blair Bell and himself. She was g from infective endocarditis of a very severe type streptococcal infection. A rigor occurred every rs or oftener, during which the temperature ran up or 105° F. and was followed by profuse sweating. was an attack of pleurisy with pleuro-pericardial but without any marked effusion. All the various of antistreptococcal serum had been tried without enefit. The assistance of Professor A. E. Wright ptain S. R. Douglas was obtained and a vaccine was rom the streptococci obtained from the patient's own Captain Douglas estimated her opsonic power twice nd by him the injection of the vaccine was regulated. ally the patient made an excellent recovery and, he exception of the effects of phlebitis of the left limb, she was now quite well. Sir James Barr ted the success of the case to the vaccine, and id a high compliment to the dexterity and lative skill of Captain Douglas.—Dr. W. B. NGTON alluded to the statement of Professor Wright, d by Dr. Bradshaw, that local lesions did not tend to eous recovery. Dr. Warrington asked whether the y of local tuberculous lesions of the lungs and e was not notably towards recovery. It had been that though marked improvement might be noted in ulmonary tuberculosis yet the opsonic index remained r. Crace-Calvert asserted the contrary. These state- equired verification. Assuming that the index was in- by general treatment should tuberculin be adminis- Many, no doubt, would feel a difficulty in accepting planation of badly adjusted and ill-spaced auto- tions to explain the high opsonic index in the more cases; though fluctuating, it seemed in many cases ain above the normal. Dr. Warrington considered e related by Sir James Barr of great value and one showed the value of the vaccine treatment as opposed t of antibacterial sera The latter had proved of alue in his practice.—Dr. G. A. CRACE-CALVERT, Dr. N RAW, Dr. YORKE, Dr. W. O. ORAM, and Professor also took part in the discussion.—In replying, Dr. HAW said that none of the speakers who had any nce of the method had controverted the main points paper. He was inclined to attribute the remarkable of the anti-sera to a specific influence immanent in od of the horse.

ASGOW MEDICO-CHIRURGICAL SOCIETY.—A g of this society was held on April 20th, Dr. L. y Steven, the President, being in the chair.—Mr. J. h Pringle showed: 1. Two cases operated on for Osteomyelitis. In the first the lower epiphysis of the was separated from the diaphysis, and the upper sis was involved centrally. The whole diaphysis was d and the bone was now almost completely remodeled. second case the disease was thought at first to affect ine of the scapula only. Later the shoulder-joint e affected and as the scapula was surrounded with pus removed with the head of the humerus. In four s the scapula became re-formed. 2. A case of "Black e"—hypertrophy of the papillæ with pigmentation. ts to grow an organism failed. 3. An almost com- remodeled Femur after removal of the diaphysis he lower epiphysis to the small trochanter. The limb be amputated on account of persistent non-union after e. 4. A "Grawitz" Tumour of the Kidney. After months' hæmaturia the kidney had been removed. ns of the tumour shown resembled the cortical part suprarenal bodies. Grawitz believed the tumour ise from suprarenal inclusions.—Mr. Archibald showed, with the kind permission of Mr. G. H. s, two cases of Arterio-Venous Aneurysm follow- wounds in which spontaneous cure was taking place. The first case was that of a man wounded at the Modder, in whom there were symptoms originally of an aneurysmal varix of the right innominate vessels. Within four days of the injury a limited pulsating swelling had begun to develop, accompanied by a strongly marked thrill and systolic bruit. 25 days after injury the thrill was even more marked and a typical "machinery murmur" had appeared. A year later Mr. Makins found the condition much improved, the patient was at work as a lamp trimmer, but had some dyspnœa on exertion. The right pupil was dilated. Thrill and "machinery murmur" were much less obvious. There was now practically no pulsation, the thrill and murmur had practically disappeared, and there was no tumour to speak of. The man was able to do his work and had little or no trouble of any kind related to the original lesion. Distension of superficial veins (especially of the external jugular noted a year ago) had virtually disappeared. It might be said that the cure was, in this case, almost complete; all evidence of venous communication had disappeared and there was very little sign of arterial enlargement. The right pupil still remained, however, larger than the left. The second case was that of a man wounded at Magersfontein in whom the symptoms pointed to an arterio-venous (varicose) aneurysm at the root of the right carotid artery. Originally there was a large pulsatile swelling about the right sterno-clavicular joint and extending upwards beneath the sterno-mastoid muscle, backwards into the posterior triangle, and downwards behind the clavicle and upper ribs. The wall of the aneurysm was at first thin and yielding. Purring thrill and "machinery murmur" were strikingly developed and widely distributed. Evidence of damage to the ulnar nerve also existed. Seen by Mr. Makins a year later, the aneurysmal sac had undergone considerable consolidation and the wall had become dense and firm. Thrill and murmur, though still present, had become more localised. The ulnar nerve symptoms persisted. There was much dyspnœa on exertion and the man was not fit for work. Now the aneurysmal swelling, though still present, was distinctly smaller. Pulsation was less. The thrill and murmur had practically gone. Dyspnœa on exertion was much less marked and the man was in steady employment, driving a van for from four to five hours on six days in the week. There was evidence of secondary involvement of probably all the elements of the brachial plexus on the right side—weakness of all the arm and forearm muscles—but specially of those supplied by the ulnar nerve. Improvement in the arterio-venous lesion, however, was such that the man lived a comfortable life and there was now practically no evidence of venous disturbance. The lesion which still persisted might be regarded as a purely arterial one.—Dr. A. N. McGregor gave the clinical history of a case of Sarcoma of the Femur treated by Amputation through the Hip. The patient was a man, aged 30 years. The tumour had been growing for nine months and was quite free from pain. There was no history of injury. The tumour was of the size of an orange and occupied the popliteal space, bulging out on the inner aspect of the thigh. Locomotion, &c., were interfered with solely on account of its bulk. Amputation through the hip-joint was performed and he made an uninterrupted recovery.—Dr. James Scott showed the specimen with microscopic preparations. Section of the bone antero-posteriorly in the transverse plane showed that the medulla had been invaded. There was no expansion of the bone centrally. The tumour mass outside the bone was composed of spindle cells but within the bone a few distinct giant cells were seen in places.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 4th, Mr. L. A. Bidwell, the President, being in the chair.—An instructive discussion took place on the Varieties and Sequelæ of Influenza.—Dr. Seymour Taylor, in opening the discussion, said that in his view the multifarious forms which attacks of influenza took were mainly due to the differing soils which the micro-organism found in different patients. He was accustomed to group the cases under five types—namely, the neurotic, the pulmonary, the circulatory, the febrile, and the gastro-intestinal. The sequelæ, he thought, were, at least in some cases, dependent on a mixed infection and any constitutionally weak spot in a patient was particularly liable to be the one affected.—The President remarked that so far as his experience went particular epidemics seemed to be characterised by special types of the disease; he was especially interested in those cases in which acute abdominal disorder was sometimes very closely simulated; he also spoke of those cases in which bone or joint disease might follow as a sequela; probably these were due to secondary infection.—Dr. E. Arthur Saunders agreed with Mr. Bidwell that varying types occurred in different epidemics. One of the most serious sequelæ in his experience was severe cardiac depression which was generally accompanied with a very slow pulse, which might also be intermittent; the danger of syncope in such a condition was very great. In his opinion this state was due in part to affection of the vagus and in part to a toxin directly acting on the heart muscle. The very marked general depression which was so frequently seen after an attack was, he believed, a combined result produced both from the nervous and circulatory systems.—Dr. F. Rufenacht Walters said that in the sanatorium with which he was connected they saw little influenza and he attributed this to the open-air conditions, for it was a not infrequent trouble in villages in the neighbourhood. No doubt a certain number of cases of pulmonary tuberculosis owed their commencement to this disease and also some cases which were quiescent were reawakened by an attack.—Dr. W. Culver James spoke of certain cases of infective pneumonia which he had seen antecedent to the time of the recrudescence of influenza in an epidemic form in this country; these he now believed to be of influenzal origin.—Dr. Stanley Smith observed that it seemed to him that neuritis of various kinds was much more common since influenza was such a frequent affection and he thought that these diseases were most probably related to one another as cause and effect.—Dr. Leonard O. T. Dobson also referred to the frequency of neuritis, especially of the musculo-spiral nerve. In his experience this trouble was best met by treatment with high frequency electrical currents.—Dr. E. Furniss Potter spoke of the severity of those cases in which the middle ear and then the mastoid became affected, the amount of bone destruction which resulted being often extreme. This trouble was, however, rather a complication than a sequela.—Dr. R. W. Lloyd, Dr. W. A. Bonney, Mr. H. W. Chambers, Dr. A. Kinsey-Morgan, and Dr. F. G. Lloyd having taken part in the debate Dr. Taylor replied.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 25th, Dr. J. K. Kelly, the President, being in the chair.—Dr. J. M. Munro Kerr showed the following specimens: (1) Multiple Myomata of the Uterus; (2) Tubo-ovarian Cyst; and (3) Chorio-Epithelioma of the Uterus.—Dr. Alexander MacLennan showed the Uterus and Vagina from a case of Complete Procidentia.—The President showed an example of Chorio-epithelioma of the Uterus.—Dr. John Lindsay and Dr. G. N. Turner read notes of a case of Fœtal Malformation. The right knee presented, there being a club-foot on this limb, the other limb being dwarfed and widely separated from its fellow and there being a ventral hernia and malformation of the uro-genital organs. The diagnosis of the position was unusually difficult but the delivery was easy. The malformations found in the infant post mortem were split pelvis, ventral hernia, extroversion of the bladder, split penis and scrotum (the testicles being within the abdomen), persistent cloaca with largely developed Müllerian ducts (cornua uteri masculini), absence of greater part of the colon, and sacral meningocele. The dwarfed limb was destitute of muscles and nerves, there being only fat between the bones and skin. The paper was illustrated by drawings and microscopic slides.—Dr. MacLennan asked whether there were any tendons in the toes.—Dr. Lindsay replied that they were absent.—Dr. John Baird read notes on a case of Parturition in a patient with Double Uterus, Cervix, and Vagina. A septum extended from immediately above the meatus to the centre of the perineum and upwards to the cervix, about one-eighth of an inch in thickness, and completely separating the vagina into two compartments. Two os uteri were felt, the presenting foot being in the left. As labour advanced the septum became detached from the upper part of the vagina, its edge obstructing the advancing head. Dr. Munro Kerr in consultation ligatured and divided the septum and delivered a stillborn child with forceps. Two distinct uteri were made out.—Dr. Munro Kerr and Dr. R. Jardine spoke of similar cases.—Dr. W. A. Caskie read notes on cases of Puerperal Eclampsia and one of Inversion of the Uterus. In the case of inversion of the uterus the patient was seen 12 hours after delivery by a midwife; the uterus was completely inverted and was replaced by means of compression and rotation. Ergot was given as a later treatment.—Dr. Jardine thought the use of ergot dangerous in these cases, as it might cause a return of the condition; in his opinion inversion was seldom caused by pulling on the cord, as the cord would break if much traction were used and it would therefore require a strong cord to bring about inversion of the uterus.—The President, Mr. J. Craig, and Dr. MacLachlan spoke.—Dr. Caskie replied.

Reviews and Notices of Books.

The Diagnosis of Tuberculosis of the Lung, with Special Reference to the Early Stages. By Dr. K. TURBAN, Privy Councillor of the Grand Duchy of Baden; Director of the Sanatorium at Davos. With an Introduction by Sir DYCE DUCKWORTH, M.D. Edin., LL D., F.R.C.P. Lond. Translated by EGBERT C. MORLAND, M.B., B.Sc. Lond. London: John Bale, Sons, and Danielsson, Limited. 1905. Pp. 135. Price 5*s*.

THIS book is a translation of the first two sections of Dr. Turban's "Beiträge zur Kenntnis der Lungen-Tuberculose," published in 1899. In its preparation Dr. Morland has had Dr. Turban's constant co-operation and many additions and corrections have been made, so that the work may be taken as the expression of Dr. Turban's views at the present time. The book actually consists of two originally distinct papers, the one on Early Tuberculosis of the Lung and the Classification of the Disease into "Stadia," and the other on Physical Examination in Tuberculosis of the Lung. No attempt, we think wisely, has been made to combine the two in one essay and the title of the translation may be regarded as a compromise.

The work is divided into three sections, respectively entitled "Early Tuberculosis of the Lung," "Classification of Tuberculosis of the Lung," and "Physical Examination in Tuberculosis of the Lung," thus dividing the first of the papers named above into two parts. Numerous interesting observations are made in the first section on the manner in which pulmonary tuberculosis commences. The question is raised as to whether the physical signs which are so often noted at the apex of the upper lobe of one lung and which are usually regarded as being due to tuberculous infiltration are always to be ascribed to that condition. That certain other conditions may occasionally affect the apex of the lung is, of course, well known but they do not give rise to the collection of physical signs now referred to. As these signs are so frequently met with if they are not due to tubercle some apical disease of a non-tuberculous nature should often be detected at necropsies. Dr. Turban points out that lesions of such a nature are very rarely found, whilst morbid conditions due to tubercle are discovered in one-third, or even one-half, of all post-mortem examinations. He therefore rightly concludes that the apical lesions diagnosed during life as being of a tuberculous origin are in the highest degree of probability of that nature.

Dr. Turban also refers to the insidious manner in which pulmonary tuberculosis develops and the long period which may elapse before breaking down of the lung tissue may occur. When the organism has reacted to the invasion of the bacillus with inflammation and tissue proliferation there may be a pause before softening occurs. This pause may be temporary or permanent and occurs at any rate once in an overwhelming proportion of cases of chronic tuberculosis and often several times in the course of the disease. This state of equilibrium in the damaged organ has been happily termed by French authors "la trêve," a suspension of hostilities. Examples of stationary tuberculosis are frequently seen at necropsies [illegible] who have died from some other cause (accident or disease) than tuberculosis. In many of these cases there have been no symptoms of pulmonary tuberculosis and Dr. Turban suggests that the earliest deposits of tubercle may not necessarily produce clinical phenomena. He argues that whether the disease is manifested early or late depends on the degree of the toxicity of the bacillus, on the production of antitoxins by the organism, and the consequent quicker or slower development of the disease, as well as on its localisation in the bronchi and alveoli or in the interstitial tissue. Most physicians will agree with him that in any case it is false to assume that clinical symptoms must begin, as a rule, with sputum containing bacilli. Bacilli are in general first found in the sputum when foci soften and invade a bronchus, or, to use Dr. Turban's phraseology, "when tuberculosis, until then '*closed*,' becomes 'open.'" This condition is reached sooner or later according to the localisation of the foci and the rate of their development. He further maintains that in cases of pulmonary tuberculosis running a normal course the time during which the "closed" form lasts must be of considerable duration—weeks, months, or years. The symptoms and physical signs of early pulmonary tuberculosis are next discussed in detail and many interesting and instructive points are brought out.

Section II. deals with the division of the disease into "stadia." Dr. Turban's classification is a good one from a clinical point of view and might well be generally adopted for comparative statistics. For those of our readers who are unacquainted with this classification we may state that Dr. Turban distinguishes three stages, or stadia, of chronic pulmonary tuberculosis as follows: (1) disease of slight severity affecting at most one lobe or two half-lobes; (2) disease of slight severity more extensive than in the first stage but affecting at most two lobes, or severe and affecting at most one lobe; and (3) all cases of greater extent and severity than in the second stage.

Section III. describes the physical examination which is required in cases of pulmonary tuberculosis. The various changes which may be noted on percussion and auscultation and the numerous varieties of adventitious sounds which may be heard are well described, and numerous useful hints are given which will be of considerable value to the practitioner in examining cases for the early signs of pulmonary tuberculosis.

We can cordially recommend to our readers a perusal of this little book. It will be found of real practical value and it contains information not included in ordinary text-books on medicine.

The Principles of Treatment and their Applications in Practical Medicine. By J. MITCHELL BRUCE, M.A., LL.D. Aberd., M.D. Lond., F.R.C.P. Lond., Consulting Physician to Charing Cross Hospital and to the Hospital for Consumption, Brompton. Third impression. London and Edinburgh: Young J. Pentland. 1905. Pp. 614.

IN our review of this work when it first appeared[1] we expressed the favourable view that we had formed of it after studying its contents. We explained the nature and scope of the book and commented on the excellent lines on which it was planned. We remarked that it started by assuming no therapeutical laws but proceeded to find them in the familiar facts of etiology, pathological anatomy, and the clinical characters of disease. These points are carefully considered in ascertaining the elementary principles of treatment and in the course of the inquiry the student is taught how he may himself employ his observations as guides to practice. The volume now before us is not a new edition, so that our previous remarks apply equally to this, the "third impression." Dr. Mitchell Bruce states, however, in a prefatory note that advantage has been taken of the demand for a third issue of the work to reconsider and to modify certain opinions and expressions, to introduce some of the newer remedies to the attention of the reader, and to correct a few typographical errors that had previously escaped notice. The fact that two impressions have been so speedily exhausted and that a third has been called for is not a cause for surprise when the reader becomes familiar with the book; it is replete with most valuable information in regard to therapeutics and contains numerous hints which will prove most useful to the practitioner. For speedy reference the second part of the work, "Illustrations of the Principles of Treatment," will be found very serviceable. The treatment of various diseases is considered in detail, but at the end of each chapter a brief summary is given which enables the practitioner or the student to find at once the information desired.

We again have the pleasure of congratulating Dr. Mitchell Bruce on the success of his work which forms one of the most practical and comprehensive manuals in connexion with the treatment of disease which have been published.

Clinical Hæmatology: a Practical Guide to the Examination of the Blood with Reference to Diagnosis. By JOHN C. DA COSTA, jun., M.D. Second edition, revised and enlarged, containing nine full page coloured plates, three charts, and 61 other illustrations. London: Rebman, Limited. 1905. Pp. 591. Price £1 2*s.* 6*d.* net.

WITHIN three years the call for a new edition gives the author of this admirable volume so much to incorporate that he must be glad of the opportunity of crystallising the recent advances at the present time. He indicates three noteworthy lines of advance—the identification of new clinical entities, the correlation of blood pictures with a number of diseases hitherto unstudied or imperfectly investigated hæmatologically, and the proof of the septic nature of many of the specific infections. There can be no doubt that hæmatology has been making rapid advances but the rate of progress can scarcely be appreciated unless in some such work as that at present before us we have an opportunity of realising the numerous changes necessitated within a very short time. For example, we find in this book that fresh space has had to be devoted to trypanosomiasis, kala-azar, spotted (Montana) fever, and cyanotic polycythæmia; that the blood changes of a considerable number of familiar conditions have required revision; while it is claimed that hæmatology has proved the bacteriæmic character of enteric fever, Malta fever, pneumonia, scarlet fever, and possibly rheumatic fever. The account of trypanosomiasis supplies a very satisfactory but brief history of this condition, with a clear description of the worm-like organism of which there is an admirable illustration. It is suggested that although the detection of trypanosomata in the blood affords the key to the diagnosis, yet when no organisms can be found a well-defined anæmia with a low leucocyte count, characterised by an excess of large lymphoid cells and by moderate basophilia, gives a very suggestive blood picture. The Leishman-Donovan bodies of kala-azar are figured, while it is remarked that the blood pictures of this disease and of Malta fever are very similar, apart from the parasitology of the blood. The account of the examination of the blood by clinical methods is extremely lucid and orderly and new instruments and new methods of work are described with such simplicity that the student should have no difficulty in mastering the technique. We are informed that in the preparation of this edition much new material has been gleaned from the consultation of more than 900 recent references to hæmatological literature and it is extremely satisfactory to note that a large number of these references indicate due appreciation of the labours of British investigators. From the care with which this volume has been revised it can be cordially recommended to all who wish to obtain information of recent advances in hæmatology and also to those commencing this important branch of study. For the beginner it may be well to remark that much of the spelling is American rather than English; although this entails no difficulty of comprehension it involves a certain amount of correction for the purpose of examination and does not appeal to British eyes.

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[1] THE LANCET, March 3rd, 1900, p. 623.

LIBRARY TABLE.

Indian Toxicology. By F. N. WINDSOR, Captain, I.M.S., M.B. Cantab., M.R.C.S. Eng., Chemical Analyst and Bacteriologist to the Government of Burmah. London: W. Thacker and Co. 1906. Pp. 99. Price 3 rupees.—The scope of this little book is limited to the poisons which are used in India, by which means it is hoped that the contents may be of practical use to both medical men and students in that country. The author rather quaintly states that other poisons may be considered as "toxicological curiosities" for which larger text-books about European toxicology must be consulted, "although the information will prove of no use to them in their future career in India." It is equally certain that English readers will find within these pages reference to some few poisons which they are not likely to find mentioned in English text-books or to encounter in practical work. This little book only consists of six chapters and of these four deal with generalities, such as the scope of the science, the recognition of poisoning, the methods of analysis and examination, and the general treatment of poisoning. In the last two chapters there is a classification of poisons into corrosives and irritants and vegetable and animal poisons. It must be admitted that there is nothing peculiarly Indian in the group of corrosives and irritants unless we note the ease with which common poisons can be purchased in the bazaars and the relatively greater frequency of their employment for poisoning cattle. Another source of danger is due to the carelessness of native shopkeepers who keep drugs and foodstuffs in close proximity and to the stock-in-trade of the hakims being frequently tied in the corners of dirty rags with no apparent means of distinguishing one white powder from another. Of the vegetable poisons, opium, datura, and aconite appear to be those most commonly employed; others described are strychnine, the oleanders, Indian hemp, cocaine, and more briefly, as being less common, plumbago, madar, and jequirity. The main facts are usefully epitomised in each case, while greater space is devoted to directions connected with the analysis and the detection of the different poisons. We are glad to note that in several instances the author does not hesitate to give details of physiological tests when chemical tests may lead to unsatisfactory results. Within the limitations which the author has assigned to his book he has succeeded in compressing much useful information, and he supplies many interesting brief records of actual cases which indicate that accidental and intentional forms of poisoning occur with sufficient frequency to call for the restrictions of the sale of poisons which obtain in this country.

Technique de Microbiologie Tropicale. By Dr. F. NOC, Médecin Major des Troupes Coloniales, Détaché à l'Institut Pasteur de Lille. With a preface by Dr. A. CALMETTE. Illustrated. Paris: Octave Doin. 1905. Pp. 320. Price 4 francs.—This concise volume is more comprehensive than the title of the book would lead us to expect. The book is more than a laboratory guide, for it deals not only with technique, but also with the anatomy of, and to some extent the bionomics of, parasites concerned in the etiology of tropical ailments. The subject is arranged in four parts. The first part of the book is devoted to the equipment necessary for a laboratory in the tropics, to the preservation and methods of transmitting pathological specimens, and to the study of mosquitoes, ticks, and other propagators of infection. The second part of the book is concerned with "diagnostic microbiologique," of which the first chapter deals with a clinical study of the blood in persons living in warm climates. The second chapter deals with malaria parasites, piroplasmosis, trypanosomiasis, spirillosis, filariasis, and the serum diagnosis of Malta fever, dysentery, and typhoid fever. In Chapters III. and IV. intestinal and skin parasites are fully considered. In the third division of the book pestilential maladies, such as plague, cholera, and yellow fever, are studied. In the fourth and last section the prophylaxis of several of the more prevalent tropical diseases is discussed. Dr. Noc's book is admirable; it is well illustrated, well written, and presented in a manner which is at once easy to follow and thoroughly scientific.

Indigestion: the Diagnosis and Treatment of the Functional Derangements of the Stomach, with an Appendix on the Preparation of Food by Cooking, with especial reference to its use in the Treatment of Affections of the Stomach. By GEORGE HERSCHELL, M.D. Lond. Third edition, entirely rewritten. London: Henry J. Glaisher. 1905. Pp. 293. Price 5*s.* net.—Indigestion as a diagnosis is rarely justifiable, since, as Dr. Herschell himself writes, "it is a matter of common knowledge that the group of symptoms to which we apply the term for clinical convenience is common to many different affections of the stomach, and modern methods of examination have enabled us in the majority of cases to find out without difficulty the exact cause of the trouble." This quotation gives accurately the aims and scope of the work before us, and we may say that Dr. Herschell has been successful in his presentation of the methods of investigation and treatment of the common disorders of the digestive processes in the stomach and that his classification rests on a rational basis. In adopting the title of indigestion for his work he is perhaps less than just to himself, since he deals in a detailed manner with a variety of gastric disorders of which the varying symptom-complex implied by the term "indigestion" comprises but a part. There can be little doubt that in this country the methods of intragastric examination, by which so many advances in diagnosis and treatment have been made, have been greatly neglected and that in this respect we are much behind the American and continental practitioners. A useful chapter in Dr. Herschell's book is that indicating the cases for which such methods are unnecessary and those in which diagnosis without them cannot be rationally made. The style in which the book is written is somewhat popular and at times racily descriptive, while the scornful references to the "physicians of the nineteenth century" and to the "titled heads of the profession" are perhaps hardly in the best of taste.

The Mummy and Miss Nitocris: A Phantasy of the Fourth Dimension. By GEORGE GRIFFITH. London: T. Werner Laurie. 1906. Pp. 312. Price 6*s.*—Mr. George Griffith's scientific or quasi-scientific romances are always amusing and those who read his fantastic romance "A Honeymoon in Space" will not be disappointed with this his latest excursion into the world of transcendental geometry. Given a protagonist who has attained to the fourth dimension and all things are possible. Although we ourselves have never been able to form any clear mental picture of the fourth dimension, we have read Mr. Griffith's novel with interest and we can commend it to our readers as a book that is an agreeable relief from the study of problems which have to do with the physical affections of our poor bodies.

A Vocabulary of Malay Medical Terms. By P. N. GERRARD, M.D. Dub. Singapore: Kelly and Walsh, Limited. 1905. Pp. x.-107.—This little book should be found useful by the [illegible] men class for whom it has been compiled [illegible] and magistrates. The preface is particularly interesting and gives sundry native beliefs as to medical matters which should certainly be taken into consideration by any European medical man who wishes to treat a Malay patient. Besides the vocabulary the book contains specimen conversations with patients supposed to be affected with various diseases and Snellen's test-types in Arabic lettering with a colour-vision test. One correction we must point out to Dr. Gerrard, and that is that "Crawford's Vocabulary" should surely read "Crawfurd's Vocabulary."

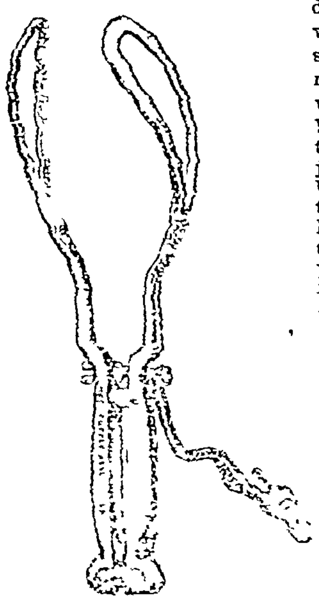
JOURNALS AND MAGAZINES.

Birmingham Medical Review (March).—In some remarks on Cases of Intestinal Resection Mr. Albert Lucas speaks favourably of end-to-end anastomosis by means of Murphy's button as more likely to leave a free opening than is lateral anastomosis with sutures. Dr. W. H. Wynn writes in commendation of Dr. F. J. Poynton's suggestion to employ citrate of sodium as a means of preventing too firm coagulation of cow's milk when used for feeding infants, and notes that in certain cases a similar procedure might be useful also for adults who are on a milk diet. The concluding portion of a useful abstract of recent work on Opsonins and Vaccine Inoculations, written by Dr. J. G. Emanuel, appears in this number.

New Inventions.

IMPROVED MIDWIFERY FORCEPS.

As it seems desirable for several reasons to avoid the necessity of introducing the left lower blade first I have devised a pattern of midwifery forceps which seems to meet the requirement. In these forceps it will be noticed that the blades do not cross, that the lock is not at the junction of the handle and blade but at the end of the handles, and that the lock can be fixed by a single turn of a stud. To prevent the blades from rolling one on the other a guide peg on the lower blade fits into a slot on the upper. A small swivel screw, attached at the junction of the blades and handles, prevents the handles from flying apart, a traction rod can be used if necessary, as in the illustration. I have used this pattern of forceps in a great number of cases and others, as well as myself, have been surprised at the ease of application.



The forceps were made for me by the Medical Supply Association, of Gray's Inn-road, London, W.C.

Ladbroke-grove, W. H. B. TAYLOR MORGAN, M.D. Edin.

ASYLUM REPORTS.

Derby Borough Asylum (Sixteenth Annual Report for the Year 1904).—The daily average number resident in this asylum during 1904, the last year reported upon, was 321. The admissions numbered 88, the discharges 48, of which 34 were recovered (giving a recovery-rate of 43·6 per cent. of the admissions), and the deaths 32, or 10 per cent. of the daily average resident. The recovery-rate is a satisfactory one: the death-rate is about the average for county and borough asylums. Amongst the numbers resident were 17 private patients and 15 boarders from a county asylum. For the past five years the average annual admission-rate for Derby patients has been 80. The character of the admissions is reported by Dr. S. Rutherford Macphail, the medical superintendent, to have been unfavourable, many of the cases being imbecile, epileptic, or sufferers from incurable dementia. In only 43 of the 88 admissions could recovery be reasonably expected. About two-thirds of the admissions suffered from recognisable physical disease, and this is stated to be the usual proportion. In respect to causation, hereditary predisposition to insanity or other nervous disorders was present in 36 per cent. of the admissions. In several of these cases the hereditary taint was denied by the relatives notwithstanding the fact that members of the family had been in the asylum. Dr. Macphail thinks it safe to assume that 50 per cent. would more correctly represent the amount of hereditary predisposition. Alcoholic excess was ascertained in 20 per cent., and in a like number the predisposing influence of various bodily disorders was established; these are not individually referred to. The statistics of 16 years have been collected in respect to relapse of patients *discharged recovered*; out of 521 patients so discharged, 105, or 20 per cent., were readmitted; not an undue proportion, as Dr. Macphail observes. It is found that patients take a longer time to recover than was the case ten years ago; the average period of residence has increased of recent years. Showing the importance of the early treatment of insanity, as of other diseases, it is to be noted that in the 34 patients discharged recovered the disorder had existed in 32 for less than three months at the date of admission. Out of 32 deaths only three were due to tuberculosis, and since the opening of the asylum the percentage of deaths from this cause upon the total number of deaths is 9·3, which is but little more than one-half the percentage for public asylums as a whole. There were 11 vacant beds in the asylum at the date of the committee's report, but these were all in the private department. Under the auspices of the Brabazon Employment Society the institution is visited by ladies who instruct the patients in various forms of light employment and still further manifest their interest by visiting at their homes those who have recovered. From the report of the Commissioners in Lunacy it appears that a detached block for 30 female private patients has been provided. From this report we gather that the asylum is maintained in excellent order.

St. Andrew's Hospital for Mental Diseases, Northampton (Report for 1905).—The average number daily resident in this institution during the year was, according to the report of the medical superintendent, Mr. J. Bayley, 410. 78 patients were admitted, of whom 66 were first admissions. The discharges numbered 95, of whom 46 were discharged recovered, which gives the very high proportion of 74·19 per cent. on the admissions, excluding transfers from other asylums. This figure is above what might be expected even from an institution such as this, which no doubt receives a large proportion of cases favourable for treatment. The statistical tables appear to give the percentage of recoveries on the total admissions (including transfers) and therefore a comparison of the above-mentioned figures with similar ones in previous years is not possible. Of the 46 patients discharged recovered 27 were under treatment for from three to nine months. The percentage of deaths on the average number resident was the low one of 6·34. As regards causation of insanity, trouble and worry were responsible for 24 per cent. of the admissions, alcoholic excess for between 11 and 12 per cent., whilst hereditary influences were ascertained in no more than 8 per cent., an extraordinarily low proportion, probably largely explained by the difficulty of eliciting information on the subject of heredity from persons of the social class to which those with whom this institution deals largely belong. In no less than 70 of the 78 admissions the mental disorder assumed the form of mania or melancholia; according to the statistical tables not a single case of delusional insanity was admitted. The hospital has the advantage of a separate residence, situated in North Wales, to which patients are sent for change, which is no doubt excellent alike from the point of view of the patients and the nursing staff. St. Andrew's Hospital is an institution for the middle and upper classes, a large proportion of the patients being received at very moderate rates of payment. The reports of the Commissioners in Lunacy, who visit this and similar institutions twice yearly, are appended and are of a nature satisfactory to the management.

THE LANCET.

LONDON: SATURDAY, MAY 12, 1906.

Sanitary Administration in the Port of London.

THE reports of the medical officer of health of the Port of London testify year by year to the importance and variety of the services which the corporation of the City, in its capacity of sanitary authority for this great seaport, renders to the metropolis and to the country as a whole. The most recent of these reports, that for 1905, is no exception to the rule. One of the most important duties undertaken by the medical staff is in relation to infectious diseases on shipboard. Of these, as many as 211 cases came under notice during the year, including 65 cases of enteric fever, 24 of small-pox, six of cholera or suspected cholera, and nine of suspected bubonic plague. In connexion with the last disease arrangements which had been made for the destruction of rats on board vessels and in warehouses within the docks resulted in over 50,000 rats being caught and destroyed during the year. As regards cholera, special vigilance was called for in the autumn in consequence of prevalence of this disease in Russia and its extension along the River Vistula into Germany. At the suggestion of the Local Government Board all persons arriving in the Thames from ports on Russian and German littorals were medically examined and the destination of passengers or immigrants was in all cases investigated in order to permit notification to the sanitary authorities of the places to which they were bound. Addresses given in these circumstances have often proved to be inaccurate in the past and it is satisfactory to read that in consequence of special arrangements made last year the persons who could not be traced after leaving the vessels formed a comparatively small proportion of the whole. On the question of alien immigration Dr. H. WILLIAMS reproduces a table from the report of the Commissioner-General of Immigration of the United States in illustration of the care taken at American ports to exclude immigrants who are found to be physically or mentally deteriorated or who suffer from disease which would prevent them from becoming useful citizens. Next year it may be possible to chronicle some action in the same direction, however small, at British ports. As we pointed out in an article in THE LANCET of Feb. 2nd last, describing the arrangements made in the Port of London for carrying into effect the provisions of the new Aliens Act, this legislation from the point of view of the public health of the country is on right lines and gives promise of good results if reasonably administered. It is to be hoped that this consideration may be kept in mind in the political warfare which has arisen over the operation of this Act. It is certainly difficult to consider many of these aliens as desirable additions to our population after reading the description given by Dr. WILLIAMS of the filthy conditions which are encountered on some of the vessels in which they arrive.

The work of inspecting foodstuffs within the area of jurisdiction of the port sanitary authority has come to be of considerable magnitude. The port authorities have the advantage of being able to inspect foods in bulk and to condemn articles which are unfit for food before they have become scattered throughout London and the provinces. During the year it was necessary to condemn over 15,000 carcasses of mutton or lamb, 3517 quarters of beef, and 437 cases of veal, pork, and butchers' offal. In course of examination of tinned foods 1121 tins of preserved meat, 5404 of preserved fish, 5488 of fruit, and 104 of condensed milk were condemned. Other articles seized comprised 524 crates of frozen rabbits and some 100,000 eggs. Dr. WILLIAMS relates an interesting sequel to the sinking of the French steamer *Curavellas* below Gravesend with a large cargo of coffee on board. When this coffee was recovered it was necessary to regard a portion of it as unsound on account of mouldiness and fermentation. It was decided by the Customs authorities that this damaged coffee might be "denatured" by being mixed with an adequate portion of slaked lime. Some 500 tons were treated in this way and the mixture was disposed of "for manurial purposes." It afterwards became apparent, however, that the persons interesting themselves in this mixture of lime and coffee were incurring expenses which seemed out of proportion to the value of the material as manure. Observations were made and the subsequent history was that the whole was shipped to Antwerp where there was reason to believe that the material was washed to remove the lime, dried, and afterwards roasted and probably used for the purpose of "bulking" with other coffee.

One of the most important sections in the report relates to the condition of quarters occupied by the crews of merchant vessels. The position of port sanitary authorities in this matter is by no means satisfactory. Something may be done, and is done, to secure mitigation of "nuisances" and to obtain cleanliness of crews' quarters. But the port medical officer of health is practically powerless to deal with gross sanitary defects which result from faulty construction and neglect of elementary principles of lighting and ventilation. In the ordinary merchant steamer the space allotted to the crew, and used both for sleeping and for messing, is thrust as far forward as possible. The space in question is divided longitudinally in order to secure the customary, and probably necessary, separation between firemen and seamen. A minimum floor area of 12 square feet per head is prescribed by Board of Trade regulations but this in practice secures a wholly inadequate air space, while ventilation is frequently almost non-existent. Port holes in the bows in ordinary circumstances have to be kept closed. Ventilators are frequently so arranged that they open immediately over the bunks. A strong down draught falls on the occupants, with the result that these ventilators nearly always are blocked up at the first opportunity. In these circumstances, especially in rough weather and when the fore cabins are full of wet clothing, the condition of the crew's quarters is often unwholesome in the extreme. The matter has again and again been brought to the notice of the Board of Trade but with little or no result. It might be supposed, however, that care would at least be taken to see that the present regulations regarding space, ventilation, and lighting, inadequate though they are, receive recognition in the construction of new vessels. Some observations made by Dr. WILLIAMS regarding a steamer built as lately as 1900 seem to show that this is not always the case. The inspector's visit was made in the Upper Pool in broad daylight. Going to the crew's quarters he found that all the available lamps, four in number, had been lighted in order to provide sufficient light for the crew to see by. The only way in which daylight could be admitted into the quarters on either side was by two seven-inch glazed ports, and as usual the bunks occupied the same side of the quarters as the glazed ports and greatly obstructed what little light could be admitted by this means. To representations by the port sanitary authority the owners returned the usual answer that the quarters "had been built to the requirements of the Board of Trade and duly passed by them." Representations then made to the Board of Trade that such inadequate lighting transgressed official regulations elicited the reply that at Cardiff, where the vessel had gone, the Board of Trade inspector considered that no breach of official regulations existed. Dr. WILLIAMS will receive the support of all who have practical experience of the subject when he urges that the Board of Trade should take powers to improve the conditions of life of the seamen in the following directions: (*a*) crews' quarters should not be placed in the fore part of the ship; (*b*) improved and efficient ventilation, lighting, and heating; (*c*) increase of cubic space; and (*d*) separate messroom and washhouse. Dr. WILLIAMS points out that if crews were berthed aft all these requirements could be carried out with the greatest facility. This is a matter to which the attention of Parliament should be directed in connexion with the Government's Merchant Shipping Bill. One clause in this Bill confers powers on the Board of Trade to appoint committees of experts on any questions relating to the working of the Merchant Shipping Acts. It is to be hoped that the Board of Trade will take an early opportunity of utilising these new powers to obtain advice and guidance on elementary sanitary principles which at present appear to receive too little recognition in official regulations regarding the construction of vessels and too little consideration in the everyday practice of the Board's officers.

The Feeding of Children attending Public Elementary Schools.

ON March 2nd the Education (Provision of Meals) Bill passed its second reading in the House of Commons and was referred to a Select Committee. In our issue of March 10th we commented upon the provisions of the Bill and pointed out that the local authorities, in whose hands the organisation for the providing of food for the children is left, would have no easy task. Two points have especially to be considered: firstly, the selection of recipients of meals, and secondly, the organisation for the distribution of such meals as it may be determined to give. The Select Committee which is now sitting to consider the provisions of the Bill will have its [illegible] considerably lightened by the information contained in a White paper, Cd 2926, which has recently been presented to Parliament by command of His Majesty and which contains information collected by the Board of Education and the Foreign Office regarding methods adopted in great continental and American cities for dealing with under-fed children. The Foreign Office began to collect this information at the request of the Board of Education in March, 1905, and the return is dated April 11th, 1906. A schedule of questions was drawn up covering all the points which seemed likely to arise in a discussion of the subject, the most important being the following:—What meals are provided (i.e., breakfast, dinner)? Are meals given to all children attending elementary schools? If not, how are those to be fed chosen? Are any steps taken to recover the cost from parents who can afford to feed their children but do not? Another question was a request for information covering the last three years as to (*a*) the school population, (*b*) the number of meals given, (*c*) contributions from public funds: (i.) imperial, (ii.) local; (*d*) voluntary contributions, (*e*) payments by parents, and (*f*) total cost. The countries included in the return were Austria and Hungary, Belgium, Denmark, France, Germany (including Würtemberg and Luxemburg), Holland, Italy, Norway, Sweden, Spain, and Switzerland, and of cities in the United States, New York, Philadelphia, and Chicago.

The lessons to be learned from the replies form an interesting document. In all the countries mentioned some attempt is made to provide food or other form of assistance for children presumably in need thereof. Stated broadly, in only very few instances were any funds received from the State towards the expense of feeding children, but in nearly all cases assistance was received from the local funds. If therefore we in this country determine to feed our children upon the same lines as have been adopted by certain of our neighbours it seems pretty sure that the money for the purpose will be an additional charge upon the already overburdened ratepayer, and equally sure that such a proposal will meet with considerable opposition on both sides of the House. It is interesting to note that in giving evidence before the Select Committee upon April 26th Mr. JOHN SCOTT, headmaster of the Wood Close School, Bethnal Green, a man of 23 years' experience as a teacher, said that in his view the under-feeding question was, on the whole, "quite trivial, the question of clothing and boots was much more important." From their very birth the children of our poor are fed in too many instances wrongly, even where the wages of the breadwinner are good and where a proper proportion of those wages is devoted to the sustenance of the family. This has been strongly commented upon by medical men and by all whose charitable work brings them into close relations with the poor, and statisticians have employed the fact in explanation of the figures of mortality, but the similar ignorance that is prevalent with regard to the clothing of the young, perhaps because it leads to less obvious and immediate consequences, has somewhat escaped attention. This point must be noted as forming an obvious argument for the regular inspection of school children by a medical officer, since popular ideas of what constitute sufficient and suitable food and clothing for children seem to be confused to the same degree.

Ideals are all very well in theory but they have to give way to hard facts. In a properly organised society all children would be fed by their parents with as much regularity as are young animals or birds, or as children are to this day in primitive communities. But the conditions of modern life in what are called—some would say ironically called—civilised communities have led to the breaking up of the home, to the loosening of the bonds of parental responsibility and to children being "dragged up" anyhow, instead of being brought up by a careful parent. It is for the medical profession, so far as possible, to help modern society in the awkward fix in which many complex conditions have placed it. The reformation of the home is the most obvious remedy, but it is far easier to name a remedy than to find it. The schemes included in the return are but makeshifts, but at present they seem to be the best which can be made use of and if the Select Committee will carefully consider the information it may be able to provide a really useful measure. The country will have to pay a bill in some way to meet any charges found necessary and it is well that this should be recognised even before the machinery to meet the charges is proposed. The education of our children no less than their physique is bound up in the larger affairs of their environment and the schoolmaster, the physician, and the sanitarian should work together to arouse a public sense of the vast national importance of the whole question. Carefully tabulated medical statistics would assist our legislators to logical conclusions and practical action. "The children want bread and the suggested remedy is figures," we hear many kind-hearted people say; but it must be remembered that as yet no two people are agreed as to how many children want bread, much less to what extent the nation is thereby weakened in its effective population. Such a method of universal and systematic inspection of school children as is advocated by the National League for Physical Education and Improvement would supply at this junction information that would be simply invaluable to our legislators.

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The Outbreak of Yellow Fever in British Honduras in 1905.[1]

Professor Rubert W. Boyce visited British Honduras in the autumn of 1905 whilst yellow fever was prevalent and we are now favoured with a report of his observations and a statement of his plans for prevention of the disease. From so astute an observer we expect a masterly report and in this expectation we are not disappointed, for Professor Boyce's publication is succinct in its statements, wonderfully complete, and written in a manner at once clear and convincing. Starting with the definite knowledge that yellow fever is conveyed by the stegomyia fasciata mosquito, a fact proved conclusively in 1900 by Reed, Carroll, Lazear, and Agramonte, Professor Boyce proceeds to show the distribution of stegomyia, its constant presence in all districts in which yellow fever prevails, and the sanitary conditions which obtain and serve as factors in favouring the continuance of this species of mosquito. That the town of Belize is infested by the stegomyia is not to be wondered at when the habits of this mosquito and the sanitary conditions in Belize are considered. The stegomyia fasciata is essentially a "domestic" mosquito; its larvæ are found in the receptacles used for the storage of water near houses and in the rain water collecting in tins, bottles, or crockery thrown out from the houses and allowed to lie about the gardens, yards, or outhouses, where it flourishes to the exclusion of other mosquitoes. Rain water stored in barrels is the commonest form of water-supply both for washing and also to a large extent for drinking purposes in the town of Belize and as these barrels have no lids they are a favourite and constant habitat of the larvæ of stegomyia. Water is also stored in vats and tanks; of wells there is a fair number but as almost all these are unprotected they constitute, in addition to the barrels, breeding places for this mosquito. It is plain, therefore, that if yellow fever is to be fought in Belize a controlled and protected water-supply is necessary; all vats, tanks, and barrels must be screened permanently with wire gauze or temporarily with cheese cloth. The eradication of malaria, to which Belize is also liable, can also be effected but, of course, on different lines. The most prevalent anopheles mosquito which transmits malaria in Belize is the Cellia albipes, although another undetermined species is also present. This mosquito is absent from the water receptacles near houses but is met with in the marsh land around the town, in the mangrove swamps, in the shallow weed-grown gutters of the streets, in shallow pools, in waste places, and in the cattle ponds. To free Belize from yellow fever and malaria would seem, therefore, a simple problem, for the areas of distribution of stegomyia and anopheles are patent and their eradication is only a matter of destroying their breeding grounds in and around the town.

The early recognition of yellow fever and the early notification of the disease are points upon which Professor Boyce lays great stress. In British Honduras the stegomyia fasciata can live all the year round owing to the country being within the zone of the permanent distribution of this mosquito; there is therefore no season during which yellow fever may not prevail. Sporadic cases of the disease are liable to occur at any time, the only element required in addition to the stegomyia to produce an outbreak being a person or persons suffering from yellow fever. As the disease may be introduced at any season of the year from some one of the neighbouring countries, it behoves the medical authorities to be constantly on the alert. The clinical symptoms being the only readily available means of diagnosis, seeing that no parasite is demonstrable in yellow fever, as in the case of malaria, filaria, and other ailments, it is not always possible to come to an early diagnosis as to the nature of the illness, and in many cases of malaria and influenza the clinical signs and symptoms closely resemble those present in yellow fever. Fortunately, the post-mortem signs of yellow fever are characteristic and require no microscopical confirmation, and Professor Boyce very rightly draws attention to the importance and imperative necessity of obtaining a post-mortem examination in the first suspicious deaths. In this way alone can the medical practitioner feel justified in declaring in the early outbreak of the disease that it is really yellow fever he is dealing with and thereupon notifying the disease to the authorities. Early notification of any epidemic disease, indistinguishable by characteristic features apart from clinical signs and symptoms, is at all times a difficult and delicate matter, and medical men hesitate to take so serious a step without conclusive evidence. Hesitation to notify may involve a given community in the throes of an epidemic; whilst, on the other hand, the medical officer who reports the presence of the disease and subsequently finds that he is mistaken has involved the community in needless expense by upsetting commerce. The careful medical officer, however, will tell his difficulties to those in authority and proceed to isolate a suspicious case without necessarily raising an alarm. On board many ships, in the area infested by the stegomyia, mosquitoes are found and it only requires that a person should develop yellow fever on board to find the disease attacking other members of the crew or passengers, or it may be communicated, when the ship reaches harbour, to dock hands, Custom House officials, and others whose duty is to go on board the vessel or to handle the cargo. The need of careful medical inspection, of properly organised quarantine, and of means of freeing from mosquitoes the ships leaving ports infected by yellow fever is evident. Professor Boyce deals with these subjects and brings forward a number of practical suggestions whereby the danger may be eliminated.

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[1] Report to the Government of British Honduras upon the Outbreak of Yellow Fever in that Colony in 1905; together with an account of the Distribution of the Stegomyia Fasciata in Belize and the Measures necessary to stamp out or prevent the Recurrence of Yellow Fever. By Rubert W. Boyce, M.B., F.R.S. Messrs. J. and A. Churchill, 7, Great Marlborough-street, London, W. Pp. 104. Illustrated. Price 3s. 6d. net.

A recently published paper by Dr. F. I. Wilbur on the Home of Yellow Fever states that the stegomyia fasciata is not a native of American seaports in the Mexican Gulf, although it is found there, and endeavours to trace the migrations of this mosquito. Dr. Wilbur's opinion is that the Sargasso Sea is the real home of the stegomyia fasciata and of yellow fever; that in the still water of this sea of seaweed, around which the ocean currents sweep like rivers, is to be found the home of the disease. The seaweed is the *Sargassum bacciferum* and it covers an area of the sea nearly equal to that of Europe. Ships on their way to the seaports of the Gulf of Mexico and to the northern ports of South America frequently traverse this continent of seaweed and there become infected. Dr. Wilbur draws attention to the fact that yellow fever was unknown in America before the time of Columbus and it is significant that the route of his journey is known to have been across the Sargasso Sea. This conception of the area of infection is interesting and may or may not be correct, but it shows the trend of thought at the present day in regard to the origin and etiology of disease.

Annotations.

"Ne quid nimis."

BARON TAKAKI'S LECTURES.

Baron Takaki, the late Director-General of the Medical Department of the Imperial Japanese navy, has delivered two of the three lectures on the Preservation of Health amongst the *Personnel* of the Japanese Navy and Army. The lectures were given in the Governors' Hall of St. Thomas's Hospital and Baron Takaki seemed greatly pleased at the enthusiastic reception accorded to him by the audience that thronged the spacious hall. By the aid of coloured charts excellently lighted from the floor of the hall by means of powerful electric illumination the lecturer was able to interest those present in following the course of his remarks on the statistics of the Japanese navy bearing upon the prevalence of beri-beri and the eradication of that disease by the establishment of a proper diet, instituted by Baron Takaki in spite of great opposition. A full account of these lectures will appear in our columns.

THE ALLEGED INCREASE OF INSANITY.

The recent urgent appeal of a *Times* correspondent for a well-organised application of the resources of medical science to the investigation of insanity as a physical disease deserves serious attention. It is doubtful, however, whether the appeal was strengthened by the unqualified assertion that the alleged increase of insanity is a simple and an established fact. Such an assertion naturally suggests the inquiry as to the ground on which it is based. It is an undoubted fact that the number of the insane in England and Wales under the control of the Commissioners in Lunacy has steadily and even rapidly increased during the past 60 years; indeed, the *Times* correspondent points out that the number, which did not exceed 21,788 in 1844, had increased to 119,829 on Jan. 1st, 1905, and he remarks that "the effect of the mere sweeping up and incarceration of the harmless so-called 'naturals' of country villages was exhausted within a very few years of the passing of the Lunacy Acts of 1845." How do facts square with this assertion? At the census in 1871 householders were for the first time required to state whether any member of their family was lunatic, idiot, or imbecile, and it can hardly be conceived that the numbers so returned would err on the side of over-statement. The census number of the insane in 1871 exceeded, however, by 12,284 the number known to, and reported upon, by the Commissioners in Lunacy in that year. Similar census information was required and collected in 1881 and 1891, and this reserve of cases, unknown to the Commissioners but included in the census returns, fell successively to 11,390 and 10,586, which hardly supports the assertion that all the insane had been "swept up and incarcerated" within a very few years of the passing of the Lunacy Acts of 1845. At the last census in 1901 the substitution in the householders' schedule of the term "feeble-minded" for "idiot" probably induced a fuller and more accurate return of persons of unsound mind in the English population, with the result that the number of the insane in the census returns for that year exceeded by 24,710, or 23 per cent., the number under the control of the Commissioners in Lunacy on Jan. 1st, 1901. These facts, although they afford no basis for deciding whether insanity is really increasing, prove that no trustworthy conclusion can be drawn from the increasing numbers of the insane brought from time to time within the cognisance and control of the Commissioners in Lunacy. It should, however, be pointed out that while the census numbers returned under similar conditions in 1871, 1881, and 1891 showed an increase in each of the two decades, the rate of increase, which was 7·04 per cent. in 1871-81, fell to 3·23 per cent. in 1881-91. Unfortunately, the substitution of "feeble-minded" for "idiot" at the census in 1901 destroyed the value, for comparative purposes, of the numbers of insane then enumerated, although it may more accurately represent the true number of persons of unsound mind. It is impossible, therefore, to use the census figures in 1901 for testing the reality of the alleged increase of insanity between 1891 and 1901. There are absolutely no satisfactory statistics for solving the most important problem whether the probable increase in the ratio to population of existing cases of insanity really implies an actual increase of occurring cases of insanity. We know, however, that in recent years there has been a marked decline both in the death-rate and recovery-rate among the insane residing in asylums; and further, that the mean age of the residents in asylums is constantly increasing. This obviously implies accumulation of cases, which when duly allowed for shows that the number of new cases required in recent decades to account for the increase of numbers under the control of the Commissioners is a decreasing number. In their last report the Commissioners, moreover, call marked attention to the recent disproportionate increase in the number of aged persons suffering from senile dementia transferred from workhouses to asylums and further point out that the proportion to population of all lunatics aged upwards of 65 years admitted to asylums has steadily increased from 9·9 in 1884–88 to 14·3 in 1899–1903. These facts throw much doubt upon the alleged increase of lunacy and they prove that no sound conclusions on the subject can be based upon the increasing numbers of existing cases under the control of the Commissioners in Lunacy.

MULTIPLE POLYPI OF THE GASTRO-INTESTINAL TRACT CAUSING REPEATED INTUSSUSCEPTION.

IN the *Intercolonial Medical Journal of Australasia* Dr. D. M. Officer has reported the following remarkable case. A boy, aged nine years, was admitted to hospital on Oct. 21st, 1904. He had been ill for 12 months with abdominal pain and vomiting which occurred in attacks of from a few hours to a day's duration. At first the attacks occurred once a week or once a fortnight but for the previous month they had occurred every day, lasting a couple of hours with short intervals of relief to be followed by other attacks. The bowels had always acted regularly but latterly the motions were slimy and on administering a purgative prolapse of the rectum followed. The pain was so severe that the boy cried and writhed. It was referred to the umbilical region but tended to shoot towards the shoulder. Food did not induce attacks but when solid it tended to make the pain more severe. On examination a swelling was seen below, and to the left of, the umbilicus. It was freely moveable and felt semi-solid. Nothing was felt per rectum. After admission there were several attacks of pain in the upper abdomen in which the patient perspired freely and became very pale and cold. In the more severe attacks a large swelling appeared in the left subcostal region. This rapidly increased in size and then diminished either spontaneously or after the administration of morphine. Exploratory laparotomy was performed but nothing abnormal was found. Moveable kidney with intermittent hydronephrosis was diagnosed. After the wound healed the left kidney was explored and was found to be freely moveable. Nephrorrhaphy was performed. On Feb. 4th, 1905, the boy was readmitted with a history of further attacks. After admission there were several attacks in which a tumour appeared and subsided with the pain. Once three distinct tumours were present together. After administering an enema they subsided and the pain ceased. On Jan. 14th, 1906, he was again admitted with the same history. An attack had commenced on the previous day and persisted. A large ill-defined tumour was found on the left side. An enema failed to relieve the symptoms but a large quantity of blood came away. Laparotomy was performed and an intussusception involving about four feet of the small intestine was reduced. During the reduction some lumps were felt, but the patient was almost moribund and further exploration was therefore impossible. He never rallied and died an hour after operation. At the necropsy the whole gastro-intestinal tract excepting the ileum was found to contain adenomata, some of which were sessile and others pediculated. They numbered 41 and the largest was in the stomach. Cases of multiple polypi of the intestines are rare and few cases in which they were so numerous as in the case related above have been recorded.

THE ACTION OF SILVER FLASKS ON BRANDY.

A CORRESPONDENT submitted to us recently some brandy which had been left for some time in a silver flask. The flask had the silver hall-mark upon it. The brandy had darkened considerably in colour and contained a dark brown flocculent sediment which on analysis proved to be copper combined with tannin. There was also a very distinct amount of copper in solution in the brandy, apparently in the form of acetate. These results suggested a few experiments which ultimately proved that genuine old brandy dissolves in a quite short time a very distinct amount of copper, the copper so dissolved ultimately combining with the tannin to form a tannate of copper. When a few shillings were placed in some old brandy and the spirit was examined after a day or so a distinct amount of copper was found in it. On adding a penny to the shillings in this experiment the dissolving effect was considerably increased, due, no doubt, to the stimulus set up by galvanic action. Spurious brandy, oddly enough, did not appear to dissolve any appreciable amount of copper from a silver coin, so it may be concluded that the action of old brandy is partly due to the acetic acid which it invariably contains, plain spirit being comparatively free from this acid. This view is supported by the fact that genuine Jamaica rum, which contains more acetic acid than does brandy, has a strong action on a silver coin, extracting very decided amounts of copper from it. Standard silver contains 7·5 per cent. of copper and evidently this alloy is readily acted upon by old brandy; it would seem desirable therefore to abandon silver unless it is absolutely unalloyed as a material for the brandy flask. Rightly or wrongly, it is the custom of many people to carry a brandy flask with them as a kind of sheet anchor in the event of faintness overtaking them or as an anodyne for colicky pains or other manifestation of digestive trouble. In the latter case the presence of copper in the brandy might easily aggravate the trouble as salts of copper frequently act after the manner of a powerful irritant poison, causing pain in the stomach and spasms. The simple precaution easily suggests itself that brandy should not be kept in a metal container but in glass.

THE NATIONAL ASSOCIATION FOR SUPPLYING FEMALE MEDICAL AID TO THE WOMEN OF INDIA.

THE report of this association for the year 1905 shows the very remarkable progress which has been made during the last seven years. There are now 12 provincial branches working under the central committee and there are some 140 local associations or committees attached to it. For the provision of medical aid to the women of India there are now some 260 hospitals, wards, and dispensaries officered by women and most of them directly governed by, or affiliated to, the association. This number compares very favourably with the 185 which existed in 1898. The total value of the various institutions engaged in furthering the work of the association amounts to the large sum of 3,83,37,000 rupees. During the year 1905 medical aid was furnished to 1,956,831 women and children, an increase in the numbers of some 472,000 over the year 1898. 44 lady doctors, 87 assistant surgeons, 274 hospital assistants, and a large number of midwives and nurses are employed in the various zenana hospitals and institutions. These figures show a marked increase over those for the year 1898.

A corresponding increase is evident in the disbursements and investments of the association. This period of seven years comprises the term during which Lady Curzon controlled the work of the association and it is not surprising, therefore, that the committee should wish to express its sense of the heavy loss which it has sustained by her departure from India and its appreciation of the very admirable work that she did for the association during her term as president. In her last address to the committee Lady Curzon said: "Some fears had been expressed that by the plan of bringing trained nurses from England for work in India under a scheme which had been put forward by her the work being done by nurses in India already might be interfered with. The scheme, however, for providing English nurses in every province was in no way intended to interfere with or check work already being done or capable of being done by other agencies." The need of properly trained English nurses in India is a very marked one and there can be no doubt that there is ample room for all the women who can be persuaded to undertake such work, whether they be trained at home or in India. We have already discussed this matter[1] and we can only congratulate the committee of this association on the good work, which it has done and hope that future years may witness as great an increase both in the prosperity of the fund and in the relief afforded to the suffering women and children of India as has attended its labours in the past.

THE TREATMENT OF PUERPERAL FEVER.

THE Midwives Supervising Committee has presented a most interesting report on the working of the Midwives Act, 1902, in Manchester, to the city council. The report is a long one and contains statements from the medical officer of health and the medical executive officer appointed to work under the medical officer of health in connexion with the supervision and training of the midwives in the city. There is included also a report from Dr. A. Knyvett Gordon, medical superintendent of the Monsall Fever Hospital, in reference to the treatment of the cases of puerperal fever admitted into that hospital during 1905 In this he gives most interesting details of the procedure adopted in the treatment of these cases. On the admission of the patient after a brief preliminary examination to eliminate any infectious disease which might call for her complete isolation, a further examination is carried out in the operating theatre under an anæsthetic, the patient having been prepared for any operative procedure which may be considered necessary. A swab is taken from the interior of the uterus and a complete study of the organisms found is subsequently made in the bacteriological laboratory. In all but five of the cases treated during the year 1905 the interior of the uterus was then curetted with a large sharp curette and the raw surface made was disinfected with undiluted izal fluid. The object of this operation is not only to remove any retained products of conception but also to disinfect thoroughly the interior of the uterus. In the further treatment an attempt is made to neutralise the poisonous products of the infecting organisms, and for this purpose large doses of bactericidal sera are employed. Two types of these sera have been used, one prepared from pure cultures of various streptococci isolated from cases of puerperal fever and the other prepared from pure cultures of the bacillus coli, also prepared from cases of puerperal fever. During 1905 the antistreptococcic sera were employed in 26 of the cases and the colon bacillus serum in four. In all cases large doses of the sera were employed, varying from 40 to 100 cubic centimetres; in no cases have any untoward symptoms developed, although occasionally the treatment seems to have been of no avail. All the cases admitted during the year, 41 in number, were very seriously ill, and all presented evidence of severe septic infection. 60 per cent. of the cases were attended by midwives, while in almost every case there appeared to have been unnecessary delay on the part of the midwife in sending for a medical man. Dr. Gordon asks the interesting question, Is it possible to determine whether the infection took place at the time of delivery or subsequently? He thinks it improbable that the incubation period is more than 48 hours in the case of the streptococcus or the bacillus coli, judging by analogy from other forms of wound infection. In his series of cases, however, this interval has been four days or longer in 20, or 57 per cent. In the cases attended by medical men the average interval has been three days and in no case has it been more than four days; in the cases attended by midwives, on the other hand, the average period has been four days and one of six or seven days has been by no means uncommon. The interval elapsing between the onset of septic symptoms and the notification of the case was in most of the cases unduly long and this is very unfortunate from the point of view of successful treatment. Dr. Gordon pleads for the admission of all cases of puerperal infection both of the mild and of the severe type into hospital, and in this we feel sure he is correct. These are essentially cases for hospital treatment but there is often considerable difficulty in getting them admitted into a hospital. Many general hospitals will not take them and there is no provision in London for their admission into the fever hospitals of the Metropolitan Asylums Board. We can only hope the time may come when their earlier notification will improve the chances of successful treatment, and that medical officers of health will be empowered in the future to insist upon their removal to a fever hospital as infectious cases when their home surroundings are considered unsuitable for successful treatment. The example of Manchester in this respect is one that might well be copied by other cities.

THE MEDICAL SOCIETY OF LONDON AND THE AMALGAMATION OF SOCIETIES.

A SPECIAL general meeting of the Fellows of the Medical Society of London was convened on May 7th to consider the following proposal by the council of the society:—

> That whilst asserting the desirability of an amalgamation of the various medical societies of London into a Royal Society of Medicine, the Medical Society of London can only agree to join in this effort provided: first, that the financial position of the new body is found to be satisfactory after the financial accounts of the various societies have been thoroughly investigated, and, second, that the privileges of the Fellows of the Medical Society are carefully safeguarded."

The question of the amalgamation of the London societies, details of which have from time to time been given in our columns, has reached a somewhat critical stage. The action of the Medical Society of London in the matter has been looked forward to with some interest, for it appears to some to be doubtful if a satisfactory financial basis can be arranged without its aid. The above proposal was very fully discussed last Monday, and not without a considerable degree of criticism. It was pointed out by several of the speakers that in return for the large contribution of books and money which would have to be made by the Medical Society, although some of the rights and privileges of the Fellows would be safeguarded, there were others which would not, such, for instance, as the case of general practitioners and country Fellows. However, some of the Fellows urged that in the interests of medical science and for the general good a further attempt should be made to clear up the difficulties of the position. In the end the proposition of the council was carried by 44 to 11 votes, a comparatively narrow majority over the three-fourths of the Fellows present necessary to carry a resolution of this special character. Had the proposition not been carried no further action by the Medical Society in the amalgamation would have taken place. As matters now stand, the Medical Society has expressed its approval of the principle of amalgamation provided the necessary financial investigations and arrangements can be made and the privileges of its Fellows guarded. In the interests of scientific progress it is to be hoped that the coöperation will become possible.

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[1] Vide THE LANCET, Nov. 25th, 1905, p. 1580.

THE PLAGUE OF INGENUITY.

IN many ways human ingenuity is a plague to modern life and there is some excuse for the view of a great man who regarded the inventor of railways as a curse to his race. The truth probably is that no invention is at first perfect and we have to suffer from its transitory imperfections. We dare say that the motor-car is a triumph of locomotion but no one can deny that it has drawbacks. London has recently been invaded by the motor omnibus and most people recognise its convenience and advantage as regards its celerity of service, but this is terribly discounted by the stench and noise which apparently are inevitably attendant upon its progress. Until motor vehicles have wings, we have heard it said, they will always be an eyesore, an earsore, and a nosesore. While not prepared to accept that view, at any rate, as a condition of things likely to last, we must admit that the accessories of modern life in general are placing greater and greater strain on the faculties of the individual. His eyes are strained by the intense artificial lights, his ears are worried by the unnecessary din of the streets, and his nose is offended by the vapourisation of offensive fumes of oil or by the fœtid air of the "tube." That simpler life appeals to him more than ever which removes him from the maddening sphere of the inventors' activities. Still, after all, the human machine is wonderful in its power of adapting itself to a new environment and just as few now look upon the railway, as was formerly the case, as a really offensive invention so in time to come the present distresses inflicted upon us by modern ingenuity will, it is to be hoped, gradually disappear partly by the process of adaptation and partly by improvements resulting in mitigation of the kind of evils referred to. One thing at least may be said and that is, on no account should a modern invention be tolerated, however convenient it may be in one direction, unless it satisfies hygienic requirements.

EDWARD JENNER ON ANTIVACCINATIONISTS.

IT is curious to find that Edward Jenner believed in the power of Parliament to put an end to what we now call "the Antivaccination Movement." In an unpublished letter, the property of Mr. William J. Treadgold of Derby, Edward Jenner, writing under date Jan. 16th, 1807, says: "My movements will be regulated by those of the College of Physicians and the House of Commons. The former have not yet finished their inquiry, which will, when completed, be laid before the House. This inquiry will lay all the troublesome ghosts which have so long haunted the metropolis with their ox-faces and dismal hootings against vaccination. However, 'tis all for the best. You may depend upon it the new investigation will prove the touchstone of the vaccine discovery." The report of the College of Physicians was so strongly in favour of Jenner that the House of Commons voted him £20,000. On the continent, too, he was almost worshipped. A certificate signed by him took the place of a passport in some countries, while Napoleon the Great and the King of Spain released prisoners of war at his request. Nevertheless, the "ox-faces" at home were unabashed. *The Cow-pox Chronicle* seems to have been the antivaccinationist organ of that day. Baron refers feelingly to "its atrocious falsehoods, its coarse and disgusting ribaldry, and its impious scurrility." Vaccination was often a subject for debate. In March, 1808, the "British Forum" debating society solemnly discussed the following question: "Which has proved a more striking instance of the public credulity, the gas lights of Mr. Winsor or the cow-pox inoculation?" Both gas light and vaccination were "handed over to scorn and ignominy."

A CONFERENCE OF CHARITY ORGANISATION SOCIETIES.

WE understand that a conference of charity organisation societies will be held at Tunbridge Wells on June 11th, 12th, 13th, and 14th, and that invitations to it are being issued by the committee of the Tunbridge Wells Charity Organisation Society. There will be a reception by the Mayor at the town-hall on June 11th, at 8 P.M., and a garden party will be given by Miss Crothers at Southborough on June 12th. On June 12th, 13th, and 14th papers will be read on the following subjects: (1) the Royal Commission on Vagrancy Act (with special reference to Enforced Labour Colonies); (2) the Feeding of School Children; (3) Constructive Charity; and (4) Guilds of Help (adoption of the Elberfeld system). Each paper will be followed by a discussion. It is also proposed to hold a private meeting of members of charity organisation societies on June 14th, at 10.30 A.M., to consider the subject of Thrift. Arrangements will be made for an excursion to Penshurst Place and Lingfield Epileptic Training Home on the afternoon of June 13th. Colonel E. D. Newnham-Smith is the President of the Charity Organisation Societies Conference Committee. All communications should be addressed to Miss Rix, the honorary conference secretary, 32, Dudley-road, Tunbridge Wells.

POISONING BY PICRIC ACID.

CERTAIN remedies used in surgery occasionally produce symptoms caused by their absorption into the system. Amongst such substances iodoform and carbolic acid most frequently give rise to untoward phenomena. In THE LANCET of April 28th, p. 1175, we published the record of a case which occurred in the Radcliffe Infirmary, Oxford, in which picric acid applied to burns produced evidences of poisoning in the patient. Picric acid is trinitrophenol and is formed by the action of nitric acid on phenol. In this case the most important manifestations were referred to the skin and the urine, although the constitutional symptoms were severe. An eruption, in many respects resembling measles, appeared over part of the neck, the whole of the chest, the abdomen, and the back, the arms as far as the wrists, the front of the thighs, the calves, and the insides of the knees. It was absent, however, from the face and behind the ears. Picric acid has the effect after absorption of combining with the hæmoglobin of the blood corpuscles and of displacing the weaker combination in them of oxyhæmoglobin, thus preventing the normal metabolism of the tissues. Methæmoglobin is formed and can be recognised by its peculiar absorption band in the spectrum. Certain changes are also found in the blood corpuscles. Professor Erb found distinct nuclei in the red discs and free nuclei in the serum; the white blood corpuscles show a tendency to numerical increase. The urine is frequently red in colour; the poison is mainly eliminated by the kidneys and doubtless the changes in the urine are due to the reaction which occurs in the blood. The urine in this particular case was examined by Dr. W. Ramsden of the Oxford Physiological Department. The first sample examined was rich with some abnormal pigment. This pigment was carried down with the earthy phosphates precipitated by heat, the precipitate having a rich brown colour. The exact nature of the pigment could not be ascertained, but the tests for hæmatoporphyrin, methæmoglobin, and hæmatin proved negative. The case is well worthy of record. We are not aware of any evidence that has been brought forward of idiosyncrasy in respect of such drugs as picric acid, carbolic acid, or iodoform, though possibly it may exist. The occurrence of instances of poisoning by these substances naturally does not prohibit the use of such valuable medicaments but indicates that they must be employed with caution. We believe that no fatal case of poisoning by picric acid has occurred when the drug has been used for medicinal purposes, but in THE LANCET of August 5th, 1891, an instance was reported of a man who worked in a melinite factory and inhaled fumes of nitrous acid and volatilised picric acid. Severe dyspnœa ensued, with cough and spasm of the glottis. Picric acid was found in the urine. Parenchymatous nephritis followed and death ensued.

UNIVERSITY COLLEGE, LONDON (UNIVERSITY OF LONDON).

A COURSE of eight lectures on the Structure and Functions of the Central Nervous System, with special reference to the Brain Stem, will be given in the physiology department by Dr. W. Page May, Fellow and lecturer of the College, on Wednesdays at 5 P.M., beginning on Wednesday, May 16th. The syllabus of the lectures is as follows:—1. Elements of the Nervous System; Neurons; Methods of Investigation; Anterior and Posterior Spinal Roots. 2. Spinal Cord; General Structure; Conduction and Localisation. 3. Centres and Conducting Paths in the Medulla Oblongata. 4. The Pons; Origin of Cranial Nerves. 5. The Cerebellum. 6. The Mid-brain and Corpora Quadrigemina. 7. Optic Thalamus and Basal Ganglia. 8. Certain Motor and Sensory Paths; Summary. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards and to such other persons as are specially admitted.

THE TOXIC EFFECT OF OZONE AND OTHER OXIDISING AGENTS ON LIPASE.

ON being asked to describe the odour of small quantities of ozone two out of six persons, not versed in chemistry, described it as similar to that of prussic acid. This reply led Mr. J. H. Kastle, Ph.D., to investigate the action of ozone on lipase, in order to determine whether ozone, like hydrocyanic acid, was a protoplasmic poison. The results of this work are published by the United States Government in an official bulletin.[1] The ozone used in the experiments was obtained by the electrolysis of acidulated water and the lipase from the liver of the hog. The effect of ozone on lipase was determined by exposing a clear solution of the ferment to the action of a known weight of ozone at the ordinary temperature for a given time. It was noticed that after the lapse of 24 hours the odour of ozone had disappeared and the solution had become cloudy and contained a perceptible coagulum. The lipolytic action of this solution was then ascertained by determining the weight of ethyl butyrate which it was capable of hydrolysing under the conditions described in the paper. It was found that an amount of lipase capable of hydrolysing 0·058 gramme of ethyl butyrate in six hours was practically destroyed when exposed to the action of 1·009 milligrammes of ozone for 40 minutes. These results are in accord with those of Sigmund who has shown that ozone is poisonous to invertase, pepsin, emulsin, and other ferments. Dr. Kastle extended his inquiry to other oxidising agents and antiseptic substances and found that so far as their toxicity or non-toxicity towards lipase is concerned they fall into three distinct groups. The first group includes silver nitrate, iodic acid, formic aldehyde, the cresols, hydrocyanic acid, potassium nitrite, and succinic acid, which are practically non-toxic. Mercuric chloride, chromic acid, copper sulphate, and perosmic acid form the second group and are moderately toxic. The last group consists of powerfully toxic substances, including ozone, chlorine, bromine, sodium fluoride, iodine cyanide, and potassium permanganate. It is of interest to note that the first two groups contain a number of substances which are highly toxic to many living forms, whereas with one exception the last group is composed of powerful oxidising agents.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

THE lecture arrangements at this institute for the summer session of the current year are as follows. Dr. Carl Prausnitz of Breslau, demonstrator of bacteriology and comparative pathology in the institute, is giving a course of three lectures upon the Bacteriology of Water and Milk and upon Tuberculosis. The first lecture was delivered on May 9th and the other two will be delivered on May 16th and 23rd respectively, in the lecture theatre of the Institute, 37, Russell-square, at 5 P.M. Dr. William R. Smith is giving a course of five lectures on the Law of Public Health. The first lecture was delivered on May 8th and the remaining four will be delivered on May 15th, 22nd, 29th, and June 5th, at 5 P.M. Mr. Charles E. Harris, Ph.D., demonstrator of chemistry in the institute, will deliver three lectures on the Manufacture and Sophistication of Potable Spirits. The lectures will be delivered on successive Tuesdays at 5 P.M., commencing on June 12th. The Harben lectures for 1906 will be delivered by Professor Elie Metchnikoff of the Pasteur Institute, Paris. The lectures will be given in French in the lecture theatre of the Royal Institute of Public Health, 37, Russell-square, London, W.C., on Friday, May 25th, Monday, May 28th, and Wednesday, May 30th, at 5 P.M. Lecture I. deals with the Hygiene of the Inner Tissues of the Organism; Lecture II. with the Hygiene of the Intestinal Tract; and Lecture III. with Syphilis. The attendance of those interested is invited.

THE CHILDREN'S HOME HOSPITAL, BARNET.

THIS excellent institution is in great need of funds for rebuilding. It was founded in 1890 and provides for that very class of cases which the ordinary convalescent homes as a rule must exclude—namely, those which require careful supervision and special surgical treatment. The 14 beds, which can be increased to 15 on emergency, are always full and the weekly payment for a child is only 3*s*. 6*d*. The authorities of the hospital are in a position to purchase half an acre of land on Hadley Green upon which to rebuild the hospital but a sum of £2500 is urgently needed. The hospital is at present established in an ordinary house which is by no means an ideal building for a hospital. For instance, there is only one room for the use of the staff and the patients, and the two nurses have to occupy the same bedroom and have no sitting-room, a circumstance which makes it difficult to obtain and to keep efficient nurses. What is wanted, to quote the words of one of the honorary consulting surgeons, "is a building in the bungalow style, in which every window opens on to a veranda, so that the children can be wheeled on their beds into the open air. This is absolutely impossible in the present building, which is a simple dwelling-house and does not even possess the ordinary amount of garden space of a suburban villa." The patients of this hospital belong for the most part to a class for whom it is most difficult to find treatment. As a rule, they are tuberculous children suffering from chronic affections of the joints or rickety children suffering from chronic forms of malnutrition. These are just the cases which the ordinary convalescent homes naturally will not take. This hospital does excellent work and we commend this appeal to the notice of our readers, in the hope that they may influence those whom they may come across to help to provide the much-needed sum of £2500.

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[1] No. 26, Hygienic Laboratory, U S Public Health and Marine Hospital Service, Washington Pp 51 1906.

THE CENTRAL MIDWIVES BOARD.

AT its meeting on May 3rd the Central Midwives Board was occupied in hearing various charges brought against midwives for contravening the rules of the Board. In the cases of six women their names were ordered to be taken off the roll of midwives. In five of these cases the midwives had failed to carry out the regulations of the Board with regard to the proper use of antiseptics, the proper care of the patients, the keeping of a register, or the neglect to send for medical assistance when it was necessary for them to do so. In one of the cases the midwife was convicted of drunkenness on several occasions. In the remaining case the midwife was censured and it was ordered that a report should be furnished of her conduct in three months' time. In this instance the woman was accused of neglecting to tie the cord properly, thereby causing the death of the infant; she had failed also to notify the death of the child to the local supervising authority and she did not keep a register of cases as required by the rules of the Board. We note with satisfaction the fact that the Board is making good use of the disciplinary powers conferred on it in removing from the roll the names of midwives who fail to carry out the rules and regulations laid down by it. The omission on the part of midwives to provide themselves with proper appliances or to carry out proper antiseptic precautions is a very serious offence and should be punished with all severity. It is to be hoped that local supervising authorities will not be slow in reporting to the Board all cases of breaches of the rules of too serious a nature for them to deal with locally. In this way only will it be possible to convince midwives all over the country that they will neglect the rules of the Board at their peril and that they run the very serious risk of having their names removed from the roll if they are reported to the central authority. For this purpose the loyal coöperation of all local supervising authorities is of the utmost importance not only in attending to the proper supervision of the midwives in their district but also in seeing through their officers that the Act and its regulations are efficiently carried out.

A COURSE of four lectures on clinical surgery will be delivered at the London Hospital Medical College (University of London) by Mr. Jonathan Hutchinson, F.R.S., emeritus professor of clinical surgery to the hospital, on the following dates: June 12th, on the Transmission of Syphilis to the Third Generation; June 19th, on Syphilis and Tuberculosis; June 26th, on Tuberculosis and Diseases of the Skin; and July 3rd, on Diseases of the Skin caused by Insects. The lectures will be given in the clinical theatre at 3 o'clock. They are free to all students of the University and to medical graduates.

THE annual meeting of the Dermatological Society of Great Britain and Ireland will take place at 11, Chandos-street, Cavendish-square, London, W., on Wednesday, May 23rd, at 4.30 P.M. Dr. Sabouraud will give the oration on the Radio-therapeutics of Ringworm in the Municipal Laboratory of the City of Paris at the Hospital of St. Louis. The President and council hope that members of the profession interested in Dr. Sabouraud's work will honour the society by their presence at the meeting.

THE annual dinner of the British Balneological and Climatological Society will be held at the Imperial Restaurant, Regent-street, London, W., on May 16th, at 7.30 P.M. Dr. F. T. Roberts will be the guest of the society. Previously to the dinner an ordinary meeting will be held at 20, Hanover-square, at 5.30 P.M., when Dr. Roberts will deliver an address entitled "Some General Comments on Balneology and Associated Methods and on Spas."

Dr. Auguste Broca, president of the Society of Pediatrics and surgeon to the Hôpital des Enfants Malades, Paris, will deliver the Wightman lecture before the Society for the Study of Disease in Children, on the subject of Appendicitis, at the rooms of the Medical Society of London, 11, Chandos-street, London, W., on Friday, May 18th, at 5.30 P.M. The lecture is open to all medical men.

Sir Henry D. Littlejohn, LL.D., will preside at the next dinner of the Edinburgh University Club of London, which will take place on Wednesday, May 16th, at the Criterion Restaurant, Piccadilly-circus, London, W. Amongst those who have accepted invitations to be present are Sir William H. Broadbent, Sir Thomas Stevenson, Sir Shirley F. Murphy, and Colonel Greig.

WE are informed that the Long Vacation classes to be held this year in the medical school of the University of Cambridge will, besides the ordinary classes in general pathology and pharmacology, include a series of shorter courses dealing with more advanced work. Further particulars are given in our advertising columns.

AN extraordinary general meeting of the National League for Physical Education and Improvement will be held at Denison House, Vauxhall Bridge-road, near Victoria Station, London, on Wednesday, May 16th, at 4 P.M. The Bishop of Ripon will preside. All members of the Twentieth Century League have been invited.

THE Medical Society of London will hold a conversazione in the rooms of the society, 11, Chandos-street, Cavendish-square, London, W., on Monday, May 21st, at 8.30 P.M. At 9 o'clock an oration will be delivered by Professor Kocher of Berne, the subject being "Some Contributions to the Pathology of the Thyroid Gland."

THE annual meeting of the National Health Society will be held at Grosvenor House by the kind permission of His Grace the Duke of Westminster on May 21st at 4 P.M. The Right Hon. the Earl of Derby will preside.

THE next session of the General Medical Council will begin on Tuesday, May 22nd, at the office of the Council, 299, Oxford-street, London, W., at 2 P.M. The President, Dr. Donald MacAlister, will be in the chair.

Professor Kocher of Berne is to deliver the annual address of the Cardiff Medical Society on May 25th. He has chosen as his subject Graves's Disease.

ROYAL HOSPITAL, RICHMOND, SURREY.—Mrs. Swan of Teddington, widow of the late Mr. B. B. Swan, has contributed a sum of £4000 for the building and equipment of two new ophthalmic wards and the necessary accommodation for nurses at this hospital. The buildings will be known as the Benjamin Bousfield Swan Wing. In order that the income of the hospital may not suffer by the demolition of certain cottage property which belongs to the hospital Mrs. Swan has generously contributed a further sum of £2000 to the endowment fu

THE EARL OF CROMER'S REPORT ON EGYPT FOR 1905.

Lord Cromer's annual report on Egypt is even longer than it was last year but, as usual, it can be read from end to end with both pleasure and profit. In the opening paragraph we are told that 10,160 copies of the last report were distributed, 4800 in Arabic, 4442 in English, and 918 in French, so the author is perfectly right in concluding that a sufficient interest in his reports is shown by the public to justify the continuance of their publication.

In his first chapter Lord Cromer deals with "the system generally known as the *régime* of the capitulations in Egypt." This is a matter of the highest interest to sanitarians, for under the capitulations as at present enforced it is perfectly impossible to safeguard the public health in Egypt with complete success. The officials of the sanitary department are heavily handicapped in their contest with preventable diseases, the infecting germs being unfortunately uninfluenced by considerations to which international jealousy attaches overweening importance. The health officers cannot do their work properly; and when epidemics gain ground they are not only exposed to undeserved blame but also have to support the chagrin which attends on defeated effort. A good illustration of this hardship is shown in the following extract from a report by Sir Horace Pinching which is quoted by Lord Cromer: "46 cases of small-pox occurred, half of which were among Europeans, and were entirely due to the neglect of vaccination on the part of the poorer classes of Europeans." With the natives of Egypt vaccination is compulsory, but it cannot be enforced among foreigners who are not even compelled to declare that they have conscientious objections to it. It is probably, therefore, through sheer carelessness that their children remain a standing source of danger to the natives among whom they live.

Lord Cromer's task is a difficult one. At present, he says, no change can be made in any law applicable to Europeans without the unanimous consent of nearly all the Powers of Europe and of the United States of America, and experience has shown that even in relatively minor matters the process is so tedious and beset with so many difficulties that as often as not the Egyptian Government abandons the negotiations in despair of ever arriving at any practical result. He accordingly proposes that with the exception of Great Britain all the Powers shall cease to exercise legislative functions. The scheme which he suggests is formulated in 17 clauses but of these the second contains the essence of the whole. It provides for the creation of a separate Council composed wholly of subjects of the Powers which instituted the mixed tribunals, and legislation passed by a majority of this Council when promulgated by the Egyptian Government with the assent of His Britannic Majesty's Government shall be binding on all foreigners resident in Egypt. In one of the minor clauses it is laid down that the preservation of Egypt from disease should lie entirely within the functions of the Egyptian Government which would have to submit any proposed measures that it might wish to adopt to the European and native branches of the legislature unless it were in its power to enact those measures without special legislation, while in another it is proposed that an engagement should be entered into by both the British and Egyptian Governments that every reservation in favour of British subjects should enure for the benefit of the subjects of other Powers.

In the interests of the *suprema lex* it is devoutly to be wished that Lord Cromer's suggestions may be promptly adopted and that ere long the maintenance of potential centres of disease in the midst of the Egyptian population may be constituted a punishable offence against the public security as great as if the persons responsible for them had scattered dynamite broadcast where it was liable to be exploded.

As regards medical and sanitary affairs generally Lord Cromer's report indicates some progress but the great question of the drainage of Cairo is not mentioned. Should the capitulations be abrogated it ought then to become possible to proceed with this essential work which was first proposed and accepted theoretically in 1890. It is owing to the apathy or ill-will of the Powers that the project has remained in suspense for so many years. Writing in Lord Cromer's report for 1894 Sir William Garstin stated that a law empowering sanitary inspection and expropriation of land was required before the Cairo drainage scheme could be undertaken and that the Powers had not consented, although a formal application to them to do so had been made in July, 1893. That the sewerage of Cairo is a matter of extreme urgency is shown by the death-rate. According to the returns for the first fortnight in January last (which should be about the healthiest part of the year) the mortality among the native and European inhabitants respectively was at the rate of 34·0 and 31·7 per 1000 per annum. Typhoid fever[1] and other affections usually associated with defective sanitation are still very prevalent in Cairo in spite of the greatly improved surface cleanliness, the excellent water-supply, and the magnificent climate. The longer the drainage question is postponed the more expensive it will become. Every year streets are being paved and asphalted. Last year, Lord Cromer says, £E.27,000 were spent on these improvements. The advantage, for the moment, is no doubt considerable but when sewers are laid the work will have to be done a second time. At the present time 47 per cent. of the total area of roads in Cairo are entirely unpaved, while 28 per cent. more are merely macadamised with soft limestone. The sooner the drainage works are undertaken the better it will be from every point of view, sanitary or financial.

In his chapter on Public Health Lord Cromer gives some interesting information with regard to the progress which has been effected in connexion with medical and sanitary affairs. The number of in-patients treated in the Government hospitals during 1905 was 29,237, against 27,921 in 1904; 125,128 out-patients were treated in the hospitals and dispensaries. About £E 25,000 have been provided in the estimates for the current year for the construction of new, or for the improvement of old, hospitals. Of this sum £E.9000 are to be spent on a hospital for contagious diseases at Alexandria. Owing to a want of accommodation in the Abbassieh Lunatic Asylum (the only asylum in Egypt) it is still necessary to overcrowd the building and also to discharge patients prematurely. There is good reason to expect, however, that before long additional accommodation for about 300 lunatics will become available at Abbassieh, bringing the total number of beds up to 812, and also that a second asylum, to contain 600 beds, will be built in a suitable position a few miles to the north of the present one. For the construction of the new establishment about £E.107,000 will be required, and in order that a commencement may be made a sum of £E.20,000 has been included in this year's estimates. On the subject of the water-supply of towns Lord Cromer has a good deal to say. Alexandria is now well supplied. Since last June much of the water that is supplied to Cairo has been pumped from artesian wells sunk to the north of the town. More wells are in process of being sunk and eventually the whole district will be supplied from this source. Mansourah has been given wholesome water at a cost of £E.26,000. The waterworks at Damietta are nearly completed; when finished the town of Esbet-el-Borg will receive its supply from them and water will also be furnished to Ras-el Bar, a fashionable resort at the *embouchure* of the Nile, opposite Esbet-el-Borg, where between 3000 and 4000 visitors assemble during the summer months, living in grass huts, and enjoying unrivalled sea-bathing and cool sea breezes. Plans are also being prepared for waterworks at Zagazig, Menouf, Mehalla-el-Koubra, Zifteh, and Mit Ghamr, and it is expected that work will be commenced at these places in the course of the current year. In the opinion of the head of the Egyptian Sanitary Department, Sir Horace Pinching, the provision of a pure water-supply is "the most important step taken up to the present by the Government in the direction of improving the general hygienic condition of the country." As a rule, the procedure has been greatly appreciated by the population and petitions are constantly received begging the Government to extend the system to the petitioners' towns; but, on the other hand, prejudices against the use of well-water still exist. Sir H. Pinching has been assured that the women often think that it causes their hair to fall off.

Lord Cromer's remarks under the head of malaria are very interesting. "I have alluded in former reports," he says, "to the very successful results obtained at Ismailia in combating malaria by the adoption of the system initiated by Major Ross. During the past year the campaign against mosquitoes was commenced at Suez. The results have been distinctly satisfactory. The number of in-patients treated in the Government hospital for malarial affections during 1905 was 91, as compared to 118 in 1904, whilst the number of out-patients fell from 405 to 260." Dr. J. E. Cresswell reports: "This does not show the real benefit, great as it is. During the last few years an intimate knowledge of the people has led me to estimate that in the Fagalla quarter 25 per cent. of the inhabitants were infected, 75 per cent. in the Arbaeen and 100 per cent. in the gardens. Also, one member of a family would come to the out-patients' department and take home quinine to the other sick members of the family; this year they said there was no fever so far as the town was concerned." In spite of this improvement, continues Lord Cromer, it will be necessary to drain the marshes near Suez and to adopt other remedial measures before the fever can be extirpated completely. A campaign against mosquitoes is also being instituted at Port Said.

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[1] The recent death in Cairo of Sir Edwin Palmer, who for some years was financial adviser to the Egyptian Government, was caused by typhoid fever.

(To be concluded.)

HAMPSTEAD GENERAL HOSPITAL.

A SUCCESSFUL conference of the local profession on the management of the Hampstead General Hospital took place on May 5th, at the Hampstead Conservatoire, under the auspices of the Hampstead division of the British Medical Association. Mr. F. R. HUMPHREYS, chairman of the division, presided.

There were many members of the Hampstead division present, as well as some members of the St. Pancras division (which had agreed to the motions to be placed before the conference), and many local medical practitioners who did not belong to the Association.

The proceedings opened by the CHAIRMAN calling upon the honorary secretary of the Hampstead division to read the resolution of the division, passed on April 6th, convening the conference.

The CHAIRMAN then gave a short address explaining the condition of things which had led up to the present meeting. He pointed out that the hospital was founded under the Companies Act, as a limited company, in 1882, and gave extracts from the memorandum and articles of agreement which showed that the objects for which it was started were "the providing of a home hospital and nursing institute for the benefit of persons who are unable to obtain in their own homes the accommodation, care, nursing, and attention which they require when overtaken by sickness or accident" and that it "is designed primarily for the benefit of persons residing in Hampstead," permitting persons residing outside the borough to "be admitted to the benefits of the hospital, subject to such restrictions and upon such terms as the council shall from time to time think fit." He pointed out that free beds were not provided until 1893 and that the out-patient department had not been started until 1896. He observed that there were few or no persons in Hampstead (except paupers) who were unable to pay the fees of the provident dispensary, which for 11*d.* per month provided a man and his wife and unlimited children with medical attendance during sickness. The health of Hampstead was shown by the report of the acting medical officer of health of the borough, Mr. F. E. Scrase (on whose report, just issued, he begged to congratulate him), to be considerably better than any other part of the County of London, and the same report mentioned that there were eight public institutions for the sick and infirm within the borough and that 40 similar institutions outside it had received Hampstead residents during 1905. He added that within three miles of the Hampstead General Hospital there were seven general hospitals and at least 15 special hospitals, nearly all of which had out-patient departments; there were other neighbouring medical institutions in addition to these. So that neither Hampstead nor the surrounding district appeared to be in want of a general hospital in Hampstead. However, he recognised that that institution existed and had to be made the best of. In December last the hospital had made a new start in the new building on Haverstock-hill and was presented with the sum of £20,000 to pay off the expense of rebuilding. The King's Fund had at different times given £4500 to the same funds and its executive had recently stated that they were prepared to recommend a further donation of £5000 to the same object, coupled with the suggestion that a consulting staff should be appointed. The existing staff consisted of general practitioners who did their work to everybody's satisfaction. The chairman stated most emphatically that the present agitation was not in any way directed against the medical staff of the hospital and that all such action had been most carefully excluded from the earlier proceedings. There was no ethical question touched; only large issues were under discussion.

Mr. H. W. ARMIT then moved motion 1 on the agenda:—

> That an out-patient department in Hampstead is unnecessary.

The motion was seconded by Dr. G. D. PIDCOCK.

Dr. E. COLLINGWOOD ANDREWS, a member of the staff of the hospital, speaking on behalf of his colleagues and himself, agreed with the last four of the motions before them, but asked for clear evidence on the first motion, such as could be investigated, that the out-patient department was abused. He was not prepared to agree that there were no poor in Hampstead. He said that disfranchisement followed sick attendance under the Poor-law and if out-patients were to be referred to the relieving officer this should be remembered.

Dr. J. FORD ANDERSON spoke to the effect that out-patient departments were unnecessary and that in Hampstead they were a superfluity.

Dr. M. DUTCH pointed out that it was difficult to give the names and addresses of persons who were believed to be ineligible for treatment at the out-patient department at which they had obtained relief. Such information might lead to an action for libel.

Dr. WALTER SMITH said that medical relief did not disfranchise, that 75 per cent. of the patients attending at the out-patient department of the Hampstead Hospital were said to come from St. Pancras, and his experience as a guardian there was that large numbers of those who, on account of the possession of means, were refused relief under the Poor-law went to the out-patient departments of hospitals and improperly obtained treatment there. He had known Hampstead for 30 or 40 years and there was less poverty there than anywhere else in London.

Mr. H. C. PARSONS moved as an amendment:—

> That motion 1 be postponed until adequate reasons had been given by the secretary (of the meeting) to the staff which they could put before the council and cause the closing of the out-patient department.

He said that he moved this amendment, as without the coöperation of the staff nothing could be done with the hospital. No adequate reasons were given in motion 1 for the closure of that department.

Dr. W. COODE ADAMS seconded the amendment. He said that the motion touched upon difficult and dangerous ground and that it was necessary to remember that the lay public had the last word. He was in general agreement with the motion but further investigation was required.

Mr. SCRASE (one of the staff of the hospital) supported the amendment and said that the hospital had an almoner who investigated the claims of the patients attending the out-patient department and that the latter were also required to produce "letters." The staff were quite willing to coöperate in abolishing it when it was proved that the out-patient department was abused. The Provident Dispensary was very poorly equipped for treating patients.

Dr. W. HEATH STRANGE said that so far from the Provident Dispensary being badly equipped some £1500 had been spent on it.

Mr. E. T. AYDON SMITH pointed out that the greatest part of the opposition to the closure of the out-patient department lay in the fact that the Hospital Saturday and Sunday Funds made grants depending upon the numbers of patients attended at the hospital and that the out-patients added very largely to the sum total. He had had personal experience of one hospital where various dental operations on a patient's mouth, given at the same sitting, were each reckoned as different attendances.

Dr. H. SHARMAN pointed out the enormous temptation to hospital authorities to keep up a large out-patient department. There were many large hospitals near Hampstead to which out-patients could go and where, at any rate, even if ineligible for attendance, they might be made use of for teaching purposes. He thought that the Hampstead Hospital was an unnecessary institution altogether but recognised its existence.

The amendment was then put to the vote and lost by 16 to 34. On motion 1 being put to the vote it was carried by 40 to 7. A motion was then made that the remaining four motions should be put *en masse*. This was agreed to and the motions as follow were thereupon put before the meeting:—

2. That the casualty department be kept distinct from any other department and that casualty patients, if not suitable for admission, be seen once and thereon be referred to private practitioners, provident dispensaries, or Poor-law authorities.
3. That there be greater facilities for general practitioners of the neighbourhood to attend in patients.
4. That there should be a *service* limit as well as an age limit to appointments to the medical staff.
5. That the outside medical profession should be *adequately* represented on the board.

Dr. L. G. GLOVER (one of the hospital staff) said that motion 2 was already carried out in practice and that when the new block was erected motion 3 would be carried out. If more pay beds (in which medical practitioners not on the staff could attend their own patients) were desired that would be agreed to. There would be general agreement about motion 4. With regard to motion 5, that would entail re-organisation of the hospital management, as there was no representation on that body, except from the Ladies' Association, which was a part of the hospital organisation.

Dr. ANDERSON spoke of the dangers of initial errors and said that as there appeared to be a medical re-organisation of the hospital in prospect it would be well to restart properly. He was of opinion that some of the motions did not go far enough; that there was a large amount of abuse, perhaps not very serious at present, which might easily extend itself. No medical staff was required for the hospital. A list of medical men ready to act if called upon in emergency was all that was required. It was essential that the local profession should be represented on the board of management by men not on the staff.

Mr. K. J. DOUGALL said that every local medical man ought to have an opportunity of attending his patients, to whatever part of the hospital they might be admitted. A rota of practitioners appointed for a month or so was all that was required.

Motions 2 to 5 inclusive were then passed *nemine contradicente*.

The SECRETARY then read the letter which had been sent out by the authorities of the Hampstead Hospital relative to the appointment of a consulting staff and quoting a letter from the executive of King Edward's Hospital Fund recommending the appointment of a consultant staff on the ground of the importance of the Hampstead General Hospital. The questions which the medical practitioners, addressed by the hospital, were asked to reply to included one in which a pure general practitioner staff was to be appointed as at present; a second as to an acting staff of consultant physicians and surgeons; and a third as to a mixed staff, composed partly of consultants and partly of general practitioners. The fourth asked for opinions as to the effect upon the popularity of the hospital likely to result from the change from general practitioner to consultant staff.

A motion was then proposed by Dr. SHARMAN and seconded by Mr. DOUGALL:—

> That the work of the hospital be carried on by local practitioners but in addition a limited list of surgeons, physicians, and specialists not belonging to the neighbourhood be kept for consulting purposes.

Dr. H. OPPENHEIMER moved as an amendment—

> That it is desirable both in the interest of the district and of the hospital itself that the Hampstead Hospital be carried on as a purely local institution, not as a large general hospital, and that therefore an acting staff of consultants is not in accordance with the spirit of its constitution.

This was seconded by Mr. R. HENSLOWE WELLINGTON.

Dr. COLLINGWOOD ANDREWS said that the hospital medical staff dissociated themselves entirely from the circular. They had had nothing whatsoever to say to it and were not consulted about it.

Mr. E JESSOP said that the hospital staff had come there in an evidently friendly spirit, desirous of meeting the local medical profession not on the staff, and that it was desired to retain the present staff in office. There was no such thing as a pure consultant in London, they were merely rival practitioners, and he could not support the appointment of a staff of this nature.

Dr. SHARMAN said that it might be desirable to call in pure surgeons in the case of the performance of major operations at the hospital.

The CHAIRMAN remarked that this was done at the Willesden Cottage Hospital.

Dr. FORD ANDERSON mentioned the analogous case in respect to the Putney General Hospital as proposed. The local profession there were not desirous of a staff of consultants, but the terms of the deed of gift to that institution required the founding of a general hospital within a limited time or the money would go elsewhere. A compromise permitting a consulting staff to perform operations seemed likely to be the solution of the difficulty in the Putney case.

Dr. L. GLOVER pointed out that the Hampstead Hospital already had a staff of consulting physicians and surgeons. He said that the reason why there was so much dislike to the performance of surgery by general practitioners was that general practitioners had not formerly had the opportunity of performing many operations.

The CHAIRMAN inquired whether there was any limit to the operations performed in the Hampstead Hospital and whether the hospital rules required a consultation to be held prior to an operation. He pointed out that the absence of any restrictions in such matters might well account for the suggestion of the executive of the King's Fund for the substitution of an acting staff of consultants.

Dr. L. GLOVER replied that there were no such rules in force, either to limit the operations performed or as to their being preceded by a consultation. In practice eight out of ten of the operations were preceded by a consultation.

The amendment was then put to the meeting and carried with one dissentient. A rider was then moved by Mr. JESSOP:—

> That the work of the hospital be carried on by local practitioners, but in addition a limited list of physicians, surgeons, and specialists not belonging to the neighbourhood be appointed, who shall give their services in consultation as desired by the acting staff of the hospital.

But it was felt by the meeting that the rider introduced matters which it was desirable to avoid and the rider was withdrawn.

A protest was made by Mr. W. B. PEARSALL against the exclusion of Irish degrees from the medical qualifications required to be held by the staff prior to appointment.

On "the steps to be taken to carry into effect the objects of this conference," Dr. OPPENHEIMER moved that three or four members of the present meeting should be elected to coöperate with the local division of the British Medical Association and to take all steps deemed advisable, with power to add to their number. This was seconded by Dr. E. CLAUDE TAYLOR and carried *nemine contradicente*.

The following gentlemen were then nominated and agreed to: Dr. J. R. Whait, Dr. Walter Smith, Dr. Taylor, and Mr. Parsons.

The meeting terminated with a vote of thanks to the Chairman.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE London and Counties Medical Protection Society held its annual general meeting, under the chairmanship of Dr. G. A. HERON, on May 4th, at 31, Craven-street, Strand, London, W.C.

The annual report gave many examples of the value to a member of the medical profession of belonging to a defence society, the following cases taken being good instances. A consulting physician received a demand from the solicitors of a patient for the return of all fees, subject to an action for damages for unskilful treatment. It seemed possible that the physician's diagnosis of an obscure ailment had been wrong but the complainant's solicitors were informed that the fees would not be returned and that the society would defend its member in any legal proceedings. No further action took place. Another member received a letter from the husband of a patient, accusing the member of causing his patient prolonged suffering by an alleged error in treatment, the treatment consisting in a bath of a pound of potassium sulphate to 30 gallons of water, when a troublesome dermatitis supervened. The member was advised how to reply and he was recommended to enforce payment of his fees, applying to the society for further assistance if occasion arose. No further assistance from the society was required. In another, case a claim was malaria by the adoption of the system initiated by Major Ross. During the past year the campaign against mosquitoes was commenced at Suez. The results have been distinctly satisfactory. The number of in-patients treated in the Government hospital for malarial affections during 1905 was 91, as compared to 118 in 1904, whilst the number of out-patients fell from 405 to 260." Dr. J. E. Cresswell reports: "This does not show the real benefit, great as it is. During the last few years an intimate knowledge of the people has led me to estimate that in the Fagalla quarter 25 per cent. of the inhabitants were infected, 75 per cent. in the Arbaeen and 100 per cent. in the gardens. Also, one member of a family would come to the out-patients' department and take home quinine to the other sick members of the family; this year they said there was no fever so far as the town was concerned." In spite of this improvement, continues Lord Cromer, it will be necessary to drain the marshes near Suez and to adopt other remedial measures before the fever can be extirpated completely. A campaign against mosquitoes is also being instituted at Port Said.

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There were many members of the Hampstead division present, as well as some members of the St. Pancras division (which had agreed to the motions to be placed before the conference), and many local medical practitioners who did not belong to the Association.

The proceedings opened by the Chairman calling upon the honorary secretary of the Hampstead division to read the resolution of the division, passed on April 6th, convening the conference.

The Chairman then gave a short address explaining the condition of things which had led up to the present meeting. He pointed out that the hospital was founded under the Companies Act, as a limited company, in 1882, and gave extracts from the memorandum and articles of agreement which showed that the objects for which it was started were "the providing of a home hospital and nursing institute for the benefit of persons who are unable to obtain in their own homes the accommodation, care, nursing, and attention which they require when overtaken by sickness or accident" and that it "is designed primarily for the benefit of persons residing in Hampstead," permitting persons residing outside the borough to "be admitted to the benefits of the hospital, subject to such restrictions and upon such terms as the council shall from time to time think fit." He pointed out that free beds were not provided until 1893 and that the out-patient department had not been started until 1896. He observed that there were few or no persons in Hampstead (except paupers) who were unable to pay the fees of the provident dispensary, which for 11*d.* per month provided a man and his wife and unlimited children with medical attendance during sickness. The health of Hampstead was shown by the report of the acting medical officer of health of the borough, Mr. F. E. Scrase (on whose report, just issued, he begged to congratulate him), to be considerably better than any other part of the County of London, and the same report mentioned that there were eight public institutions for the sick and infirm within the borough and that 40 similar institutions outside it had received Hampstead residents during 1905. He added that within three miles of the Hampstead General Hospital there were seven general hospitals and at least 15 special hospitals, nearly all of which had out-patient departments; there were other neighbouring medical institutions in addition to these. So that neither Hampstead nor the surrounding district appeared to be in want of a general hospital in Hampstead. However, he recognised that that institution existed and had to be made the best of. In December last the hospital had made a new start in the new building on Haverstock-hill and was presented with the sum of £20,000 to pay off the expense of rebuilding. The King's Fund had at different times given £4500 to the same funds and its executive had recently stated that they were prepared to recommend a further donation of £5000 to the same object, coupled with the suggestion that a consulting staff should be appointed. The existing staff consisted of general practitioners who did their work to everybody's satisfaction. The chairman stated most emphatically that the present agitation was not in any way directed against the medical staff of the hospital and that all such action had been most carefully excluded from the earlier proceedings. There was no ethical question touched; only large issues were under discussion.

Mr. H. W. Armit then moved motion 1 on the agenda:—

> That an out-patient department in Hampstead is unnecessary.

The motion was seconded by Dr. G. D. Pidcock.

Dr. E. Collingwood Andrews, a member of the staff of the hospital, speaking on behalf of his colleagues and himself, agreed with the last four of the motions before them, but asked for clear evidence on the first motion, such as could be investigated, that the out-patient department was abused. He was not prepared to agree that there were no poor in Hampstead. He said that disfranchisement followed sick attendance under the Poor-law and if out-patients were to be referred to the relieving officer this should be remembered.

Dr. J. Ford Anderson spoke to the effect that out-patient departments were unnecessary and that in Hampstead they were a superfluity.

Dr. M. Dutch pointed out that it was difficult to give the names and addresses of persons who were believed to be ineligible for treatment at the out-patient department at which they had obtained relief. Such information might lead to an action for libel.

Dr. Walter Smith said that medical relief did not disfranchise, that 75 per cent. of the patients attending at the out-patient department of the Hampstead Hospital were said to come from St. Pancras, and his experience as a guardian there was that large numbers of those who, on account of the possession of means, were refused relief under the Poor-law went to the out-patient departments of hospitals and improperly obtained treatment there. He had known Hampstead for 30 or 40 years and there was less poverty there than anywhere else in London.

Mr. H. C. Parsons moved as an amendment:—

> That motion 1 be postponed until adequate reasons had been given by the secretary (of the meeting) to the staff which they could put before the council and cause the closing of the out-patient department.

He said that he moved this amendment, as without the coöperation of the staff nothing could be done with the hospital. No adequate reasons were given in motion 1 for the closure of that department.

Dr. W. Coode Adams seconded the amendment. He said that the motion touched upon difficult and dangerous ground and that it was necessary to remember that the lay public had the last word. He was in general agreement with the motion but further investigation was required.

Mr. Scrase (one of the staff of the hospital) supported the amendment and said that the hospital had an almoner who investigated the claims of the patients attending the out-patient department and that the latter were also required to produce "letters." The staff were quite willing to coöperate in abolishing it when it was proved that the out-patient department was abused. The Provident Dispensary was very poorly equipped for treating patients.

Dr. W. Heath Strange said that so far from the Provident Dispensary being badly equipped some £1500 had been spent on it.

Mr. E. T. Aydon Smith pointed out that the greatest part of the opposition to the closure of the out-patient department lay in the fact that the Hospital Saturday and Sunday Funds made grants depending upon the numbers of patients attended at the hospital and that the out-patients added very largely to the sum total. He had had personal experience of one hospital where various dental operations on a patient's mouth, given at the same sitting, were each reckoned as different attendances.

Dr. H. Sharman pointed out the enormous temptation to hospital authorities to keep up a large out-patient department. There were many large hospitals near Hampstead to which out-patients could go and where, at any rate, even if ineligible for attendance, they might be made use of for teaching purposes. He thought that the Hampstead Hospital was an unnecessary institution altogether but recognised its existence.

The amendment was then put to the vote and lost by 16 to 34. On motion 1 being put to the vote it was carried by 40 to 7. A motion was then made that the remaining four motions should be put *en masse*. This was agreed to and the motions as follow were thereupon put before the meeting:—

> 2. That the casualty department be kept distinct from any other department and that casualty patients, if not suitable for admission, be seen once and thereon be referred to private practitioners, provident dispensaries, or Poor-law authorities.
> 3. That there be greater facilities for general practitioners of the neighbourhood to attend in patients.
> 4. That there should be a *service* limit as well as an age limit to appointments to the medical staff.
> 5. That the outside medical profession should be *adequately* represented on the board.

Dr. L. G. GLOVER (one of the hospital staff) said that motion 2 was already carried out in practice and that when the new block was erected motion 3 would be carried out. If more pay beds (in which medical practitioners not on the staff could attend their own patients) were desired that would be agreed to. There would be general agreement about motion 4. With regard to motion 5, that would entail re-organisation of the hospital management, as there was no representation on that body, except from the Ladies' Association, which was a part of the hospital organisation.

Dr. ANDERSON spoke of the dangers of initial errors and said that as there appeared to be a medical re-organisation of the hospital in prospect it would be well to restart properly. He was of opinion that some of the motions did not go far enough; that there was a large amount of abuse, perhaps not very serious at present, which might easily extend itself. No medical staff was required for the hospital. A list of medical men ready to act if called upon in emergency was all that was required. It was essential that the local profession should be represented on the board of management by men not on the staff.

Mr. K. J. DOUGALL said that every local medical man ought to have an opportunity of attending his patients, to whatever part of the hospital they might be admitted. A rota of practitioners appointed for a month or so was all that was required.

Motions 2 to 5 inclusive were then passed *nemine contradicente*.

The SECRETARY then read the letter which had been sent out by the authorities of the Hampstead Hospital relative to the appointment of a consulting staff and quoting a letter from the executive of King Edward's Hospital Fund recommending the appointment of a consultant staff on the ground of the importance of the Hampstead General Hospital. The questions which the medical practitioners, addressed by the hospital, were asked to reply to included one in which a pure general practitioner staff was to be appointed as at present; a second as to an acting staff of consultant physicians and surgeons; and a third as to a mixed staff, composed partly of consultants and partly of general practitioners. The fourth asked for opinions as to the effect upon the popularity of the hospital likely to result from the change from general practitioner to consultant staff.

A motion was then proposed by Dr. SHARMAN and seconded by Mr. DOUGALL:—

> That the work of the hospital be carried on by local practitioners but in addition a limited list of surgeons, physicians, and specialists not belonging to the neighbourhood be kept for consulting purposes.

Dr. H. OPPENHEIMER moved as an amendment—

> That it is desirable both in the interest of the district and of the hospital itself that the Hampstead Hospital be carried on as a purely local institution, not as a large general hospital, and that therefore an acting staff of consultants is not in accordance with the spirit of its constitution.

This was seconded by Mr. R. HENSLOWE WELLINGTON.

Dr. COLLINGWOOD ANDREWS said that the hospital medical staff dissociated themselves entirely from the circular. They had had nothing whatsoever to say to it and were not consulted about it.

Mr. E. JESSOP said that the hospital staff had come there in an evidently friendly spirit, desirous of meeting the local medical profession not on the staff, and that it was desired to retain the present staff in office. There was no such thing as a pure consultant in London, they were merely rival practitioners, and he could not support the appointment of a staff of this nature.

Dr. SHARMAN said that it might be desirable to call in pure surgeons in the case of the performance of major operations at the hospital.

The CHAIRMAN remarked that this was done at the Willesden Cottage Hospital.

Dr. FORD ANDERSON mentioned the analogous case in respect to the Putney General Hospital as proposed. The local profession there were not desirous of a staff of consultants, but the terms of the deed of gift to that institution required the founding of a general hospital within a limited time or the money would go elsewhere. A compromise permitting a consulting staff to perform operations seemed likely to be the solution of the difficulty in the Putney case.

Dr. L. GLOVER pointed out that the Hampstead Hospital already had a staff of consulting physicians and surgeons. He said that the reason why there was so much dislike to the performance of surgery by general practitioners was that general practitioners had not formerly had the opportunity of performing many operations.

The CHAIRMAN inquired whether there was any limit to the operations performed in the Hampstead Hospital and whether the hospital rules required a consultation to be held prior to an operation. He pointed out that the absence of any restrictions in such matters might well account for the suggestion of the executive of the King's Fund for the substitution of an acting staff of consultants.

Dr. L. GLOVER replied that there were no such rules in force, either to limit the operations performed or as to their being preceded by a consultation. In practice eight out of ten of the operations were preceded by a consultation.

The amendment was then put to the meeting and carried with one dissentient. A rider was then moved by Mr. JESSOP:—

> That the work of the hospital be carried on by local practitioners, but in addition a limited list of physicians, surgeons, and specialists not belonging to the neighbourhood be appointed, who shall give their services in consultation as desired by the acting staff of the hospital.

But it was felt by the meeting that the rider introduced matters which it was desirable to avoid and the rider was withdrawn.

A protest was made by Mr. W. B. PEARSALL against the exclusion of Irish degrees from the medical qualifications required to be held by the staff prior to appointment.

On "the steps to be taken to carry into effect the objects of this conference," Dr. OPPENHEIMER moved that three or four members of the present meeting should be elected to coöperate with the local division of the British Medical Association and to take all steps deemed advisable, with power to add to their number. This was seconded by Dr. E. CLAUDE TAYLOR and carried *nemine contradicente*.

The following gentlemen were then nominated and agreed to: Dr. J. R. Whait, Dr. Walter Smith, Dr. Taylor, and Mr. Parsons.

The meeting terminated with a vote of thanks to the Chairman.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE London and Counties Medical Protection Society held its annual general meeting, under the chairmanship of Dr. G. A. HERON, on May 4th, at 31, Craven-street, Strand, London, W.C.

The annual report gave many examples of the value to a member of the medical profession of belonging to a defence society, the following cases taken being good instances. A consulting physician received a demand from the solicitors of a patient for the return of all fees, subject to an action for damages for unskilful treatment. It seemed possible that the physician's diagnosis of an obscure ailment had been wrong but the complainant's solicitors were informed that the fees would not be returned and that the society would defend its member in any legal proceedings. No further action took place. Another member received a letter from the husband of a patient, accusing the member of causing his patient prolonged suffering by an alleged error in treatment, the treatment consisting in a bath of a pound of potassium sulphate to 30 gallons of water, when a troublesome dermatitis supervened. The member was advised how to reply and he was recommended to enforce payment of his fees, applying to the society for further assistance if occasion arose. No further assistance from the society was required. In another, case a claim was made against a medical man attending a hospital out-patient department for notifying a case as scarlet fever which was subsequently certified by the fever hospital not to have been scarlet fever. The claim was repudiated on the member's behalf and the complainant then instructed solicitors. The complainant's solicitors were written to and shown that there was no legal claim against the medical man even if he were mistaken, while there was much evidence in support of the view that the case was one of scarlet fever. The claim was not persisted in. A member of the society was unsuccessfully defended in an action brought against him by a club patient, claiming damages for libel and slander, the words complained of being written on a club certificate and uttered to persons officially connected with the club. The medical man relied on the communication being privileged but the jury awarded £150 damages against him, from which it would seem to follow that a practitioner should never, without the consent of the person examined (such consent being in writing or capable of legal proof), give his opinion of the nature of an ailment to anyone but the person examined. A member of the society was successfully defended against an accusation of adultery with a lady patient, a very accurate diary showing that misconduct could not have taken place on any of the occasions on which it was alleged, while the evidence was otherwise very weak. The jury unhesitatingly found the charge of adultery untrue. The judge said that there was not the slightest stain upon the medical man's character. All the expenses of the member's defence were borne by the society. The petitioner was ordered to pay a small periodical instalment towards defraying the costs.

The CHAIRMAN, in moving the adoption of the annual report and balance-sheet, referred to the satisfactory financial condition of the society. During the year 1905 446 new members were elected, 34 died, and 61 resigned their membership of the society because of retirement from practice, &c. The total membership at the end of the year was 3552; 226 members ceased to be in benefit owing to their subscriptions being in arrear. During the year 1905 the society's total income amounted to £2069 18*s.*, as compared with £1669 2*s.* 11*d.* during 1904. The total expenditure for the year amounted to £1786 3*s.* 8*d.*, leaving a surplus of income over expenditure amounting to £283 14*s.* 4*d.* At the end of the year the amount standing to the credit of the general account was £439 6*s.* 3*d.* and outstanding liabilities amounted to £137 0*s.* 9*d.* The reserve fund account stood at £2164 18*s.* 9*d.* and the total cash assets of the society stood at £2467 4*s.* 3*d.* In the course of his further remarks the chairman drew attention to the importance of the reserve fund and invited members to contribute towards it, and he suggested that when sending in their annual subscription the members should also remit some such sum as 10*s.* as a donation towards the reserve fund. He contended that this course was a most desirable one, because all must admit that the responsibilities undertaken by the society were very large, though the amount of the annual subscription was very small.

Dr. R. BOXALL seconded the motion, and this on being put to the meeting was carried unanimously.

After the transaction of some formal business the proceedings ended with cordial votes of thanks to the officers of the society.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on May 1st, Dr. J. PLAYFAIR, the President, being in the chair. JOHN DIXON COMRIE, M.A., B.Sc., M.B., Ch.B. Edin., was introduced and took his seat as a Fellow of the College.

On a ballot the following candidates were admitted to the Membership of the College after examination: Augustus Kinsey-Morgan, M.D. Durh., M.R.C.S. Eng., Bournemouth; Edward Collett Hort, L.S.A., L R C.P. Irel., San Remo; William Augustine McEnery, L.R.C.P. Lond., M.R.C.S Eng., San Francisco; Alfred Nolan Fell, M.B., Ch.B. Edin., Edinburgh; Russell Gerald William Adams, L R.C.P. & S. Edin., Edinburgh; and J. William Keay, M.B., Ch.B. Edin., Edinburgh.

The REGISTRAR reported that since the last quarterly meeting 27 persons had obtained the Licence of the College by examination.

The CURATOR of the laboratory submitted his report for the last year. The report was adopted by the College.

Dr. James Andrew was re-elected as representative of the College on the Conjoint Committee of Management of the triple qualification.

It was intimated that Dr. A. R. Urquhart had been appointed Morison lecturer for the ensuing session.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 10th, 1828

TRIAL FOR DEFAMATION.—PARIS.

Roberts and Langeois, versus *Boyton*, *Morgan*, *Wilson*, *Chermside*, *and Maclaughlin*.

THIS cause, which was tried on the 10th of April, in the Tribunal de Premiere Instance, excited much interest amongst the faculty at Paris. The facts of the case, as we glean from the *Gazette des Tribunaux*, are as follows:—

An establishment for dispensing medicines, according to British prescriptions, was opened under the sanction of the Ambassador, Lord Granville, by Mr. Roberts, one of the plaintiffs; and having obtained the appointment of surgeon and apothecary to the Embassy, his affairs became very prosperous, the greater number of the English, resident in Paris, having recourse to Mr. Robert's establishment for their medicines. A M. Beral, a French apothecary, seeing the reputation which had been obtained by Mr. Roberts and his partner, M. Langeois, placed upon his door the title of London Dispensary, which, it seems, had previously been adopted by the plaintiffs. After a time it was found that the physicians to the Embassy recommended M. Beral's establishment in preference to Mr. Roberts'. This led to a publication of a letter in *Galignani's Messenge* , charging the physicians with having a direct pecuniary interest in sending their prescriptions to M. Beral. From this time there was open war between the parties, and in June, 1827, a letter, signed by thirteen *physicians*, was addressed to the British Ambassador, in which Mr. Roberts was styled a retail druggist, and was charged with having calumniated the *physicians*, by representing that they received a per-centage upon medicines This denunciation of Mr. Roberts being credited by Lord Granville, led to the withdrawal of his official employment, and, as a consequence, he experienced a considerable loss of business generally. These circumstances induced Mr. Roberts to commence an action, and he therefore selected five of the physicians, who had been most active in the proceedings against him. At a former sitting, the defendants had pleaded the incompetency of the tribunal appointed to try the cause, as the party was a foreigner; but this objection was overruled, on the ground of Mr. Roberts' partner, a plaintiff in the action, being a Frenchman.

M. Laterrade, the counsel for the plaintiffs, in opening the case, spoke to the foregoing effect, and further stated, that the injury sustained by Mr. Roberts was 10,000 francs a year; he therefore demanded 20,000 francs as damages.

M. Dupin, the counsel for the defendants, rested his defence principally upon the fact of the publication of an advertisement in *Galignani's Messenger*, and also an article in the *Hygéie* which stated, that the physicians, for the consideration of a certain annual sum, secured the supply of medicines to the apothecary.

M. Barthe made a very ingenious and humorous speech in reply to M. Dupin. He remarked that England certainly does possess many eminent physicians, but she is not so ungrateful as not to keep them at home by recompenses of every kind—reputation and fortune; and, whatever may be said to the contrary, he would contend, that persons do not *always* quit their country for the pure love of science; *he would appeal to Dr. Boyton if such were the case?* In England, said the learned counsel, diplomas, unless from Oxford or Cambridge, are but of little value; those obtained from Edinburgh are but very lightly estimated. One of Scotch or Irish origin may be had for forty guineas, upon the application being accompanied with a certificate of a physician of London, Cambridge, or Oxford, attesting that the party had attended medical lectures. A diploma from Scotland had been obtained for the horse of a nobleman, under ificate having previously the title of Mr. Goodfr been given that he was a gentleman of excellent disposition and great erudition. No matter as to the origin, continued M. Barthe; but where are the diplomas of the defendants? (Here M. Dupin held up *two* sheets of parchment, to each of which was affixed a seal.) M. Barthe then said, that these were the only diplomas possessed by the thirteen who signed the letter to Lord Granville. Upon application made at the office of the Minister of the Interior, he had learned that only one of the pretended physicians was authorised to practise the healing art in France, and this one possessed an Edinburgh diploma! Such are the *doctors*, said he, that Great Britain sends to France.

After a short deliberation, the Tribunal pronounced judgment, condemning the *Physicians* to pay 5,000 francs damages with costs, and to have twenty-five copies of the judgment posted up in the capital.

BRITISH MEDICAL BENEVOLENT FUND.

AT the April meeting of the committee of this Fund 13 applications were considered and the sum of £100 was voted in relief of those cases of which an abstract is appended. Two cases were passed over and two were postponed for further inquiry.

It was announced that the sum of £240 plus interest had been received from the trustees of the late Dr. John Grieve as the share allocated to the Fund out of the residue bequeathed by him to religious and benevolent societies. A donation of 50 guineas from the Edinburgh Harveian Society was also announced.

Mr. C. Stonham consented to act as honorary local secretary at the Westminster Hospital.

1. Widow, aged 42 years, of L.R.C.P., L.R.C.S. Edin., who practised in Cardiganshire. Quite unprovided for at husband's death and has had to sell practically all her furniture. Only one child able to help. Relieved once, £12. Recommended by Mr. E. Jones. Voted £12 in 12 monthly instalments.

2. Wife, aged 31 years, of M.R.C.S., L.R.C.P., who practised in Somersetshire, but is now confined in an asylum. Two children, aged nine and six. Has a little money in hand from the sale of the practice and will receive more during the next two years. Recommended by Mr. W. M. Beaumont (honorary local secretary). Voted £5 in one sum.

3. Widow, aged 59 years, of L.R.C.P. Edin., M.R.C.S. Eng., who practised in Yorkshire. Supported herself and assisted husband for 11 years by acting as housekeeper but now suffers from an incurable complaint. Slight help from children. Recommended by Dr. C. A. Lee. Voted £12 in 12 monthly instalments.

4. Daughters, aged 82 years and 67 years, of late M.R.C.S. who practised in Suffolk. Have supported themselves since father's death 24 years ago by keeping a boarding house but receipts have gradually decreased and now the furniture has been sold to defray the rent. Only income £15 a year. Recommended by Mr. T. J. Wayte. Voted £18 in 12 monthly instalments.

5. Widow, aged 59 years, of L.R.C.P., L.R.C.S. Edin., who practised in Northamptonshire. Income £28 a year from money left on trust; earns a little by needlework and receives slight help occasionally from a son. Health indifferent. Relieved five times, £50. Recommended by Dr. T. J. Walker. Voted £10 in two instalments.

6. M.D. St. And., M.R.C.S., L.S.A., aged 75 years. Used to have an excellent practice in London but it gradually dwindled owing to degeneration of the neighbourhood and competition. Only income a pension of £30 a year. Relieved twice, £24. Recommended by Mr. C. E. Moseley. Voted £12 in 12 monthly instalments.

7. Widow, aged 34 years, of L.R.C.P. Edin., who practised in Glamorganshire. No income. Two children, aged 11 and two and a half years. Endeavours to support herself by nursing but is unable to obtain constant work. Relieved twice, £10. Recommended by Dr. Joseph Bell (honorary local secretary). Voted £10 in two instalments.

8. Daughter, aged 65 years, of late M.R.C.S., L.S.A., who practised in Sussex. Income £20 a year from a charity. Health failing and very deaf. Relieved once, £6. Recommended by Dr. Frank Hinds. Voted £6 in 12 monthly instalments.

9. M.R.C.S., L.S.A., aged 66 years. Used to have an excellent practice in Staffordshire but has been quite incapacitated by paralysis and heart disease for five or six years, and is now dependent on a superannuation allowance from the guardians and such help as he can get from charities. Children unable to assist. Relieved four times, £50. Voted £15 in 12 instalments.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 6793 births and 4955 deaths were registered in the week ending May 5th. The annual rate of mortality in these towns, which had been equal to 17·3 and 16·7 per 1000 in the two preceding weeks, further declined last week to 16·3. The mean rate in these towns during the first five weeks of the current quarter was 16·9 per 1000, while it was 17·3 in London. The lowest death-rates during last week in the 76 towns were 7·2 in Hornsey, 7·3 in Willesden, 7·9 in King's Norton, and 8·4 in Leyton; the rates in the other towns ranged upwards to 21·2 in Hanley, 21·7 in Norwich and St. Helens, 22·2 in Oldham, and 27·1 in Liverpool. The 4955 deaths in the 76 towns showed a further decline of 125 from the numbers in the two previous weeks and included 463 which were referred to the principal infectious diseases, against 519 and 464 in the two preceding weeks; of these, 197 resulted from measles, 144 from whooping-cough, 42 from scarlet fever, 43 from diphtheria, 39 from diarrhœa, 18 from "fever" (principally enteric), and not one from small-pox. The deaths from these diseases were equal to an annual rate of 1·6 per 1000 in the 76 towns and to 1·5 in London. No death from any of these infectious diseases was registered last week in Brighton, Northampton, Norwich, Plymouth, Nottingham, Derby, or in ten other large towns, while they caused the highest death-rates in Burton-upon-Trent, Burnley, Walthamstow, Liverpool, and Yarmouth. The highest death-rates from measles occurred in Burnley, Walthamstow, Liverpool, and Yarmouth; and from whooping-cough in Coventry, Burton-upon-Trent, Merthyr Tydfil, and Bootle. Scarlet fever showed the greatest fatality in Leicester, diphtheria in Walthamstow, and diarrhœa in Wolverhampton. "Fever" caused five deaths in Birmingham. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals at the end of last week were but three and no new case had been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, May 5th, was 2357, showing a further increase upon the numbers in the two previous weeks; 357 new cases were admitted during the week under notice, against 270, 288, and 314 in the three preceding weeks. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had been 399 and 361 in the two previous weeks, further declined last week to 309, but exceeded by 65 the corrected average for the corresponding week in the four preceding years, 1902-05. The causes of 55, or less than 1 per cent., of the deaths registered during the week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Newcastle-upon-Tyne, Norwich, Nottingham, Bolton, and in 50 other large towns, whereas the proportion of uncertified deaths showed a considerable excess in Reading, Birmingham, Liverpool, Blackburn, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·6 and 18·4 per 1000 in the two preceding weeks, declined again to 18·0 in the week ending May 5th, but exceeded by 1·7 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·8 and 15·6 in Paisley and Aberdeen to 20·6 in Dundee and 21·4 in Greenock. The 618 deaths in these eight towns included 22 which were referred to measles, 21 to whooping-cough, 13 to diarrhœa, eight to diphtheria, three to scarlet fever, three to "fever" (probably enteric), and not one to small-pox. In all, 70 deaths resulted from these principal infectious diseases during the week, against 53 and 62 in the two preceding weeks. These 70 deaths were equal to an annual rate of 2·0 per 1000, which exceeded by 0·4 the mean rate during the week from the same diseases in the 76 large English towns. The 22 fatal cases of measles in the Scotch towns showed a further increase upon recent weekly numbers and included 12 in Glasgow, five in Edinburgh, three in Dundee, and two in Leith. The 21 deaths from whooping-cough showed a decline of three from the number in the previous week, including 10 in Glasgow, four in Edinburgh, three in Aberdeen, and two in Dundee. Diarrhœa caused five deaths in Dundee, four in Glasgow, and two in Edinburgh. Six fatal cases of diphtheria and two of "fever" were returned in Glasgow and two of the three deaths from scarlet fever occurred in Edinburgh. The deaths referred in the eight towns to diseases of the respiratory organs, including pneumonia, which had been 170, 140, and 135 in the three preceding weeks, rose again last week to 138, and exceeded by six the number referred to these diseases in the corresponding week of last year. The causes of 25, or rather more than 4 per cent., of the deaths registered in the eight towns during the week were not certified, the proportion of uncertified deaths in the 76 English towns being rather less than 1 per cent.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·1 and 22·4 per 1000 in the two preceding weeks, rose again to 25·9 during the week ending May 5th. During the first five weeks of the current quarter the death-rate in the city averaged 24·2 per 1000, against 17·3 in London and 18·6 in Edinburgh. The 188 deaths of persons belonging to Dublin registered during the week under notice showed an increase of 25 upon the number returned in the previous week; they included only two which were referred to the principal infectious diseases, a fatal case each of whooping-cough and "fever." The two deaths from these principal infectious diseases were equal to an annual rate of 0·3 per 1000, the rate from these diseases in the same week being 1·5 in London and in 2·3 in Edinburgh. The 188 deaths in Dublin last week included 20 of infants under one year of age and 59 of persons aged upwards of 60 years; the deaths of infants showed a decline and those of elderly persons an increase upon the numbers returned in the previous week. Six inquest cases and three deaths from violence were registered; and 89, or 47 per cent., of the deaths were recorded in public institutions. The causes of five, or nearly 3 per cent., of the deaths were not certified either by a registered medical practitioner or by a coroner.

THE SERVICES.

Royal Navy Medical Service.

THE following appointment is notified:—Surgeon R. S. Osborne to the *Vivid*, additional for disposal.

Army Medical Staff.

Major Herbert J. M. Buist, D.S.O., R.A.M.C, to be a Deputy Assistant-Director-General, vice Major T. McCulloch, R.A.M.C., whose tenure of that appointment has expired (dated May 1st, 1906).

1st Life Guards.

Captain Alfred Crichton Lupton, from the Royal Army Medical Corps, to be Surgeon-Captain, vice B. Pares, promoted (dated May 5th, 1906).

Brevet.

Lieutenant-Colonel Francis Joseph Lambkin, R.A.M.C., to be Colonel, under the provisions of Articles 36 and 356 of the Royal Warrant of March 19th, 1906 (dated May 9th, 1906).

Royal Army Medical Corps.

Lieutenant Augustus S. Williams, from the Seconded List, to be Lieutenant (dated April 1st, 1906). Lieutenant-Colonel Octavius Todd to be Colonel, vice B. M. Blennerhassett, C.M.G., retired (dated April 4th, 1906).

Lieutenant W. C. Nimmo has assumed medical charge of women and children, Marlborough Lines, Aldershot.

Volunteer Corps.

Royal Garrison Artillery (Volunteers): 1st Aberdeenshire: The undermentioned officer resigns his commission: Surgeon-Captain H. M. W. Gray (dated May 5th, 1906). 3rd Durham: Henry Goudie to be Surgeon-Lieutenant (dated May 5th, 1906). 3rd Lancashire: Thomas Marshall Scott (late Lieutenant) to be Surgeon-Lieutenant (dated May 5th, 1906). 1st Shropshire and Staffordshire: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel E. Cureton resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated May 5th, 1906).

Royal Army Medical Corps (Volunteers).

Northern Command: Manchester Companies: Lieutenant G. Ashton to be Captain (dated May 5th, 1906).

On May 5th the London Companies of the Royal Army Medical Corps (Volunteers) paraded near the fire station in the Tooting Bec road and marched to Tooting Common where the wagons (four of which had come by road from headquarters) were unloaded, the men being divided into squads of two and four for the purpose of practising the erection of bell tents. Several of these tents were erected on a piece of ground previously measured out to represent a camp and a zest was given to the performance by the timing of each squad. At dusk the tents were struck and after having tea the corps marched back to Clapham-road. In the absence of the Colonel, Major J. Harper took command for the afternoon.

Deaths in the Services.

Colonel Daniel Frederick Bateman, I.M.S. (retired), on April 28th, at his residence, Woodcote, Ealing, aged 65 years. He entered the service as assistant surgeon in 1866; was promoted to surgeon in 1873; surgeon-major in 1878; surgeon-major, ranking as lieutenant-colonel, in 1886; brigade-surgeon in 1890; surgeon-colonel in 1893; and retired six years later. He served in the Burma Expedition, 1885–86 (medal with clasp).

Army Recruiting.

There was a debate in the House of Commons on May 2nd on Major Seely's motion concerning the question of recruiting for the present establishment of the regular army. But it led to no definite conclusion nor is any likely to be reached until Mr. Haldane has made up his mind and Parliament has agreed upon what is to constitute our future army system and organisation. The wastage entailed by our present system and the relative merits of long and short service were touched upon in the course of the debate, although not strictly pertinent to it. Mr. Arnold-Forster declared that a large proportion of that wastage was composed of young men who should never have been enlisted and that this had been largely reduced of late by the raising of the physical standard in the case of recruits. It is admittedly the case that at the present time we are not getting the requisite number and quality of young men for the army and the question comes, How are they to be obtained? Among other things some means will have to be devised for fitting soldiers to earn their own livelihood after leaving the army, and this, it is thought, may be done. Mr. Haldane, on behalf of the Government and in reply to many of the points that had been raised, stated about all that could be said in existing circumstances, but there is evidently much on which he has still to make up his mind. The subject is a very big and difficult one and we are glad to notice that he is patiently studying it with the aid of the best military experience available. As regards the relative merits of long and short army service, and even apart from the question of a reserve—in the case of India, for example—much turns on medical considerations.

Death of a well-known Army Nurse.

A correspondent writes: Memories of Spion Kop and other fierce struggles of the South African war will be recalled by the death, announced in a telegram received at the War Office, of Miss Lucie Todd, Q.A.I.M.N.S., acting matron of the Middelburg Hospital, Cape Colony. One of the first sisters to be sent out after President Kruger's declaration of war, Miss Todd arrived at the Mooi river base at the end of 1899, being attached to No. IV. General Hospital. Here she bore her full share of the heavy task of dealing with the wounded brought in from some of the bloodiest struggles of the campaign. Transferred to Elandsfontein and then to Pretoria she became at the end of the war acting matron successively of the hospitals at Mooi River, Pietermaritzburg, and Middelburg. Her health had begun to fail at Pietermaritzburg, but with the courage and devotion to duty which always characterised her she continued at work right up to the end of last year. Then she was forced to yield to the progress of a distressing illness, and she died at Middelburg on April 29th, in harness almost to the last. A highly skilled nurse, utterly unselfish in her dealings with others, Miss Todd was beloved by patients and fellow workers alike, and the army nursing service loses one who can ill be spared.

The Medical Examination of Petty Officers and other Ratings.

The *Army and Navy Gazette* states that instructions have been given that when medical examinations of men are being carried out due regard is to be paid to the desire to differentiate between petty officers and other ratings, and in view of the disciplinary question involved arrangements are to be made in order that petty officers may be treated with every consideration. When petty officers are attending with men the former are to be examined first and when required to strip each petty officer and man is to be examined separately.

THE HEALTH OF THE JAPANESE NAVY AND ARMY.

As will be seen from another column in THE LANCET Baron Takaki delivered the first two of a series of three lectures on the Preservation of Health among the *Personnel* of the Japanese Navy and Army at St. Thomas's Hospital on May 7th and 9th.

Colonel Kenneth Macleod, I.M.S. (retired), has been appointed honorary physician to the King.

Deputy-Inspector General of Hospitals and Fleets John Tyndall, R.N. (retired), has been awarded a Greenwich Hospital pension of £50 a year, vacant by the death of Deputy Inspector-General T. R. Warren.

The Torpoint (Cornwall) urban district council has received £5000 from the Admiralty towards the costs incurred by the council in promoting its Water Bill in Parliament.

Correspondence.

"Audi alteram partem."

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY?

To the Editors of THE LANCET.

SIRS,—The letter from Mr. Herbert J. Paterson in THE LANCET of April 28th calls for a response from me.

The first point with which Mr. Paterson deals refers to the frequency with which the posterior no-loop operation has been performed. I had said in my previous letter that this method was the one which was now usually performed. Mr. Paterson replied that "in London, at any rate, the no-loop method is not yet that most commonly adopted." I answered that that did not meet my point and that "the operation of gastro-jejunostomy, if one may judge from published reports, is not so frequently performed in London as elsewhere." I suggested that Mr. Paterson should look further afield. How does Mr. Paterson reply to this? He writes, "*Possibly* we are behind the times, although I think that published reports are not a trustworthy indication of the volume of work done," &c. Leaving aside the question as to what other sources than published reports are generally accessible and as to why cases are "buried in the oblivion of hospital notes" when hospital reports are published, I would point out that a remark of this kind is not necessary to the argument and it appears to attach to my words a meaning which they did not possess and which I do not desire that they should possess. Mr. Paterson goes on to say further that he communicated with surgeons "all over the country" and he gathered from his inquiries that the no-loop operation is not commonly employed. Well, I must repeat my request for Mr. Paterson to look still further afield and to bring his inquiry up to date. Let him include the continent and America and I think he will find that I am right. I hope my search has been as careful as Mr. Paterson's; it has, I gather, been more extensive and more recent and my information goes to show that the posterior no-loop operation is now performed far more frequently than any other.

As regards Dr. Mumford's case, Mr. Paterson, as I pointed out, omitted to mention the one important fact—the congenital anomaly of the duodenum. The duodenum ended on the right side of the spinal column instead of the left. Owing to this abnormal fixation the stomach in its lateral contraction caused the anastomosis to be torn. Mr. Paterson says this abnormality "does not affect the conclusion to be drawn from the record." How can he possibly maintain that? But for the anomaly the disaster would never have occurred, and there would consequently have been no record from which to draw any conclusion. Mr. Paterson quotes Dr Mumford and then adds, "In other words, the no-loop operation is mechanically incorrect" Dr. Mumford's words cannot be made to bear this construction; moreover, Mr. Paterson is surely not entitled to argue, because of the failure of the no-loop method in one case where a gross congenital deformity existed, that the mechanics of the operation are incorrect when the anatomical conditions are normal. The mechanics of the operation in Dr. Mumford's case were wrong because, and solely because, of the duodenal deformity. There is not one scrap of evidence to show that under normal conditions the posterior no loop operation is ever mechanically incorrect; on the contrary, all the evidence that exists shows that it alone among all methods is the one which is free from mechanical complications and which, being completed, leaves the viscera in almost exactly their normal relations. (Mr. Paterson will, I know, be interested to hear that on Monday last I operated, with Dr. J. R. Lambert, upon a case precisely similar to Dr. Mumford's. I overcame the difficulty, not in the way I mentioned in my former letter, but by first suturing the upper part of the jejunum into the position the third and fourth parts of the duodenum normally occupy, and then performing the posterior "no-loop" operation. The patient is, so far, as well as possible.)

With regard next to internal strangulation. I have had three cases of hernia through the opening in the mesocolon into the lesser sac. The first patient died from the hernia on the tenth day. The other two patients developed the herniæ almost certainly within a few days or weeks of the operation, not, as Mr. Paterson said of one of them, after an interval of two years. *In none of these cases was the mesocolon sutured to the jejunum.* (Though I began my method of suture in August, 1903, I did not adopt it in every case, wishing, of course, to give it a trial first.) Since so suturing I have had no case of hernia, although the number of operations is much larger, and on all the occasions on which I have subsequently had the opportunity of seeing the anastomosis the aperture in the mesocolon has been securely closed. Mr. Paterson says he requires "further evidence that *in every case* the opening remains permanently closed." A modest demand surely? How we are to obtain this evidence without re-opening the abdomen of every patient who has been so operated upon I cannot conceive. The evidence I offer is that *in every case examined* the opening has remained permanently closed and that no case has had symptoms suggesting the occurrence of hernia, symptoms which, in the cases treated without mesocolic suture, developed very early after the operation. That is to say, that all the evidence which can possibly be available supports my contention. So far, then, as internal strangulation is concerned, it occurs after the anterior operation as a result of compression of the colon or from the passage of bowel over the proximal limb of the jejunum. It occurs after the posterior operation with a loop, either in the manner just mentioned or as a consequence of hernia into the lesser sac. After the posterior no-loop operation with the suture of the mesocolon to the jejunum it has never occurred. There is no jejunal limb over which intestine can pass and the suture closes the entrance to the lesser sac. The evidence here, then, is all in favour of the no-loop posterior operation.

So far as concerns jejunal ulcer, I do not disregard Mr. Paterson's contention that it is a more serious matter if it follows the posterior method than it is after the anterior method. That I should not dispute. But what I submit comes from a study of the cases recorded is that the condition is much less likely to occur, and, as a fact, has occurred less frequently, after the posterior method; though perhaps more serious it is undoubtedly much less frequent. Mr. Paterson's contention that the cases in which entero-anastomosis has been performed should be omitted from consideration is, I think, perfectly just. But even then there are almost three times as many cases after the anterior operation as there are after the posterior. And this I consider is a greater disproportion than should exist even if we limit the period of inquiry as Mr. Paterson does. There is a further point which escapes Mr. Paterson. In the earlier years of stomach surgery the anterior operation was performed more frequently than the posterior, but in the great majority of the early cases gastro-enterostomy was performed for cancer, and jejunal ulcer has never occurred, so far as I can discover, after malignant disease. If we consider then only the cases of simple ulcer and its complications (which alone furnish the examples of jejunal ulcer) it is not improbable that posterior has been performed even oftener than anterior gastro-enterostomy, for not a few of those surgeons who have practised both operations for years have reserved the anterior method almost exclusively for cases of carcinoma. When these considerations are remembered the so-frequent incidence of jejunal ulcer after the anterior method is very striking.

But there are, I think, other factors concerned not with the method of operation but with the conditions for which the operation is performed that are of more importance in the causation of jejunal ulcer than the position of the intestinal opening. The evidence shows, however, as I said previously, that so far as the details of the operation are concerned it is the low opening in the jejunum which disposes to ulcer; and I *submit that this is so, even when the* restrictions as to time, which Mr. Paterson desires, are made.

As regards regurgitant vomiting, Mr. Paterson and I agree that there is obstruction at the *anastomosis.* He *places* it at the efferent opening, saying, "I have witnessed a considerable number of necropsies on patients who have died from regurgitant vomiting and *in every instance* the waterlogging was clearly secondary to definite *mechanical obstruction at the* efferent opening." That may be, as Mr. Paterson claims, an "observed fact," though I am unaware of the nature of the evidence which supports it. Facts, as we know, depend sometimes for their existence, *and often for their interpretation,* upon the point of view of the observer. I cannot lay claim to the same kind of experience that Mr. Paterson has, but I have operated upon a certain number of these cases and the chief demonstrable condition has been a thick, overfull, proximal loop. That also is an observed fact which has been corroborated by several surgeons. *In these cases* an entero-anastomosis or Roux's operation relieved the obstructive vomiting.

Mr. Paterson asks, "Is there a particle of evidence that a healthy piece of intestine can become waterlogged *apart from mechanical obstruction?*" and adds "the whole of the small intestine is a series of loops. Do these loops ever become waterlogged *apart from the* conditions mentioned?" These questions are hardly relevant. We are not concerned *in this discussion* with loops of intestine, which are *free to* move where they will, but with a particular loop fixed naturally at one extremity—that is, at the duodeno jejunal flexure, and fixed unnaturally and in an abnormal position at *the other—that is, at the anastomosis.* I confess *I see no* resemblance between a loop both of whose ends are free and a loop both of whose ends are attached. Any arguments that might hold good relative to the one would be valueless *in the case of the other.* Mr. Paterson is straining a supposed analogy *too far.* If, *however,* he desires an *argument* by analogy, though most argument by analogy is necessarily imperfect, I would suggest for his consideration the conditions *which exist* when a loop of intestine, *otherwise* healthy, is fixed by an adhesion or by a diverticulum. Kinking may then result, and it is probable that distension may be active in bringing the obstruction about. Mr. Paterson attributes to me the belief in waterlogging as the "primary factor" and the "primary condition." I do not so consider *it and I did not use these words. The primary factor, of course, must be the fixation of the jejunum* to the stomach.

Not only is the gut fixed to the stomach, it is also materially weakened by the complete *division of its circular muscular fibres. Following upon* this is the occurrence of a kink or "buckle," due, as I consider, to the traction weight upon a part so weakened of a jejunal loop unable properly to empty *itself. That the obstruction (which, as I said* in my *first letter, is "the real cause"* of regurgitant vomiting) may affect the afferent as well as the efferent opening is shown by the fact that suspension of the *proximal loop by anchor sutures lessens* the probability of the occurrence of this complication. That the obstruction is due to the loop is shown by the fact that in the absence of a loop it *does not occur though the method* of *making* the anastomosis remains the same. If the *loop* plays no part in the causation of regurgitant vomiting and if the obstruction *is always at the efferent opening,* how comes it that the abolition of the *loop* in secondary operations, by its division and the performance of Roux's operation, relieves the vomiting though the anastomosis *itself remains untouched? And how is it that a loop* becomes waterlogged which *is free to empty* itself through an unobstructed afferent opening and that when vent is given to a waterlogged loop by *entero-anastomosis* the *obstructive vomiting* in *almost every case is at once relieved* though no change is made at either afferent or efferent opening?

Mr. Paterson, in answer to my query as to the existence of a surgeon who can bring forward any *large series* of cases of *the anterior operation which will* compare in results either immediate or remote with those obtained by the posterior method, quotes Dr. W. J. Mayo. He could not have chosen a better authority *for my purpose,* for, as Mr. Paterson says, Dr. Mayo with his enormous experience of both methods prefers the posterior. The sentence in Dr. Mayo's article which Mr. Paterson *italicises* as to the percentage of secondary operations being greater after the posterior operation than after the anterior suits my argument very well. *The* secondary operations were due, *almost* exclusively, to the *making of a loop in the posterior* operation, a method Dr. Mayo has now abandoned. Dr. Mayo's position is, indeed, very much the same as my own. I have used the anterior *operation, I have had good* results from it, *I* still use it, when I *must, I have* used the posterior *operation* with the loop, and I have had to perform secondary operations, but for the many reasons I have given I now perform, *and very decidedly prefer, the posterior no-loop* method. Mr. Paterson again *expresses his satisfaction* with the anterior method. I cannot, of course, cavil at that; on the contrary, indeed, I admire Mr. Paterson's zeal and persistence *and his touching* faith all the more when I remember that in the little he told us of his own experience he had to chronicle in his lectures the death of two of his patients from regurgitant vomiting. *But he has not,* as I *said before, told us* what, *if* any, his experience of the posterior method is. If he will give that method a trial he will, *I* anticipate, come to the conclusion, as so many of us have done, that though the anterior method is good the posterior is rather better, and the posterior *no-loop* is best of all.

Mr. Paterson writes: "As yet I have not found any conclusive evidence *to show that the results, either immediate* or remote, are better after the posterior than after the anterior operation. If such evidence be forthcoming Mr. Moynihan need have no fear but that I shall act in accordance with it."

Mr. Paterson's needs in the matter of evidence are difficult to estimate. As I have shown, in one matter he bases a deliberate statement of opinion upon the evidence afforded by one case when the circumstances *were abnormal* and *unprecedented; in another he does* not accept the evidence afforded by every available case, as he wishes for an impossible verification of that evidence "in every case." Nevertheless, I will endeavour *to* indicate where the evidence upon *this subject may be* found. What, to begin with, is the evidence that Mr. Paterson has already studied? He has told us in his lectures that he has "collected 247 cases of *operation* from British surgical *literature of the last 20 years,"* and has obtained the *after-history of* 116 of these cases. Of these 116 cases there are 32 of my own, all but *one* being examples of posterior *gastro-enterostomy.* Of the remaining 84 cases it is not stated what was the proportion of anterior and posterior operations. Upon this evidence and upon his own experience, which, *I suspect* is confined to the anterior operation only, Mr. Paterson has formed his judgment. Well, I can offer Mr. Paterson out of my own experience—indeed, I have already sent *to him—reports of a far larger number of cases* than this. So far as immediate results are concerned my mortality, excluding the acute cases of perforation and hæmorrhage, is less than 1 per cent., and I have now had *125 cases in succession* without a death. So *far as* the remote results are concerned, Mr. Paterson has the material upon which to form his own opinion. He very properly, in estimating the *remote results, says* of his own investigations, "only cases which were operated upon *more than two years* ago are included." In the report I have sent to Mr. Paterson he will find *that up to the end of April,* 1904, there are 124 cases of mine whose history was brought up to date. I shall be *glad for* Mr. *Paterson to make direct inquiry* about them or about any of the *later cases. Further,* I would venture to *suggest* to Mr. Paterson to include in his search for evidence—evidence which already exists—what the surgeons *whose names* I gave *him in my* last *letter* and the several surgeons who spoke at the recent meeting of the International Society of Surgery have to say. The result of his research will be, I venture to predict, that he will find that, with *extremely few exceptions,* those surgeons who *are* doing, and have done, the largest work in this field have come to the conclusion, after trying all methods—*anterior,* posterior, with *or* without a loop, and Roux's *operation—that the* evidence *is in favour of* the posterior method, and he will further find that it is the no-loop *operation* that is the almost universal choice. If Mr. Paterson *will take the opinion or* watch the practice of these *surgeons,* and, above all, if he will give to the posterior *no-loop* operation a trial equal to that he has given the anterior method, he will then be in a better position than he now is to express an *opinion* upon the relative merits of the *two methods.* I shall be interested to hear what conclusion he then forms. Mr. Paterson and many others who write upon the subject speak of the anterior operation as being much "simpler" than the posterior and this simplicity is held to be an advantage. I can assure Mr. Paterson that the posterior operation can be made every whit as simple as the anterior. If Mr. Paterson will accept the invitation I formerly gave him, and now cordially repeat, to "come and see," I shall not be without the hope of convincing him that the posterior no-loop operation can be made as easy as it is possible for a gastro-enterostomy operation to be, and that his statement that "the anterior is admittedly the simpler and less complicated procedure" can be successfully refuted.

I hope it will not be thought that, though my views upon the matters we have discussed are diametrically opposed to those held by Mr. Paterson, I wish to be chary in my estimate of the great value of his lectures. They are, I think, of quite unusual excellence.

I am, Sirs, yours faithfully,

Leeds, April 29th, 1906. B. G. A. MOYNIHAN.

To the Editors of THE LANCET.

SIRS,—In the course of the controversy in the correspondence columns of THE LANCET I have come by degrees to the conclusion that a piece of epoch marking work in this department of surgery is in danger of losing its identity. And to-day I have read a statement made by Dr W. J Mayo in a communication to the *Annals of Surgery*, November, 1905, which I quote: "In the summer of 1903 Mr. Moynihan demonstrated to us the method he was using with the clamps and which goes by the name of the Moynihan operation," &c.

On Oct. 19th, 1900, my colleague, Mr. H. Littlewood, made a communication to the Leeds and West Riding Medico-Chirurgical Society upon a method of performing intestinal suture which he had been led to devise and carry out in consequence of the spontaneous closure of the gastro-enterostomy opening in two cases not in his own practice. I refer your readers to THE LANCET of June 29th, 1901, p. 1817, in which Mr. Littlewood describes the operation he had invented, which is essentially—indeed, with many of us identically—the same operation that is performed to day, that is, by the aid of rubber sheathed Doyen's forceps and with the excision of an ellipse of mucous membrane from each viscus.

There are two variant details the value of which is variously estimated, and it may be that Mr. Moynihan attaches so much importance to them and has practised them successfully for so long that he has come to regard them as the core and origin of the whole procedure. I refer to (1) the first line of suture, and (2) the question of "loop or no loop." Mr. Littlewood incised the serous and muscular coats and stripped them up a little in the submucous layer before he sutured them. Mr. Moynihan places his first line of suture through the outer coats before incising them. This is obviously a quite minor point, and some surgeons use either method indifferently. As a matter of fact, Mr. Littlewood now completes his incisions before he puts in any sutures at all, and he claims as the resulting advantage that there is no risk of soiling any suture already *in situ*.

Mr. Moynihan attaches great importance to the establishment of the jejunal opening as high as possible. It may even be that he has come to regard this as the essential feature of the operation, but if so I would point out that this is not what Dr. Mayo refers to as the Moynihan operation; and that the method of intestinal anastomosis by means of Doyen's clamps and the excision of ovals of the mucosa, if it is to be known by the name of its author, should be called the Littlewood operation. The omission to put this matter of authorship and precedence in a clear light is probably, as it may so easily be, a mere inadvertence on Mr. Moynihan's part, and Mr. Littlewood's reticence has led me to recall the sequence of events as we who witnessed these developments so well remember it. In Robson's and Moynihan's book, published ten months *after* Mr. Littlewood's original paper, no mention is made of clamps.

My reason for asking leave to publish these remarks in your columns is to afford Mr. Moynihan the opportunity, of which I am sure he will be only too willing to avail himself, of publicly stating how far Dr. Mayo and those who accept his statement are in error in withholding from Mr. Littlewood the credit of the pioneer work in this important advance in intestinal surgery. Whether the operation is anterior or posterior; whether the outer coats should be incised before suture or sutured before incision; whether a jejunal loop is undesirable or not—these points, even the last of them, are, so far as concerns the principle, the method, the technique, of the operation, of lesser importance; the essential features are: (1) the use of rubber-sheathed Doyen's clamps, with the fourfold object of steadying the parts in apposition during suture, preventing puckering and contraction from too tight stitching, preventing the escape of intestinal contents, and controlling hæmorrhage; and (2) the excision of elliptical portions of mucous membrane from each organ, so as to produce and maintain a free oval opening and to prevent the healing of the cut edges across the gap.

By far the worse of my own two cases of circulus vitiosus was after a posterior operation in which I took special pains to make the anastomosis as high as possible, short of producing actual tension at the time. The absence of any loop made the later treatment of this case a matter of the greatest possible difficulty and anxiety. In my other case, an anterior operation, the condition was easily converted into a Roux's operation, but, although not a very early convert, I have for some time been a convinced believer in the advantages of the posterior operation in all cases—a very large majority—where it is practicable. It would be very interesting if Dr. Mayo would formally restate what he regards as the important, the essential, points of the operation.

I am, Sirs, yours faithfully,

Leeds, May 2nd, 1906 EDWARD WARD.

CASEIN AND CASEINOGEN.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter from Mr. H. Droop Richmond in THE LANCET of April 28th, in which he repeats the protest contained in his book against the use of the words caseinogen and casein in the sense in which they are employed in my writings on the subject. Proteid nomenclature in general is in such a confused condition just now that a joint committee of the Chemical and Physiological Societies has been appointed to attempt to reduce the chaos to order. Among the recommendations of this committee I find the following. "They strongly urge the continued use of the words caseinogen and casein in the sense now employed in the majority of English text-books." It would be most desirable for analytical chemists to fall into line also. The words are most helpful to teachers and students and have the recommendation of being rational.

The word casein is derived from the Latin word *caseus*, which means cheese. Cheese is the result of the action of rennet and calcium salts on the principal proteid of milk, and so it is right to apply the term casein to the curdled product and not to the original proteid upon which the rennet acts. The original proteid begets the casein; it is the mother substance of the cheese and so is rightly named caseinogen. The termination *gen* is derived from the Latin verb *genero* (I beget or produce). Caseinogen is therefore not a hybrid as Mr. Richmond says. Does Mr. Richmond also propose that we should drop the word fibrinogen and call it fibrin? Such a proposal would be quite on all fours with his suggestion that we should resort to the antique terminology he has not yet abandoned and call caseinogen casein. His statement that Dr. Gustav Mann has confused the two words is not an argument in his favour. The so-called confusion is due to an obvious press error which will be corrected in future editions of Dr. Mann's book.

I may add in conclusion that the word caseinogenate which Mr. Richmond fears may be introduced is already largely employed in physiological literature and bids fair to become as firmly rooted as caseinogen. Surely a chemist is the last person to object to words on account of their length.

I am, Sirs, yours faithfully,

King's College, London, May 4th, 1906. W. D HALLIBURTON.

THE TRANSMISSION OF LEPROSY.

To the Editors of THE LANCET.

SIRS,—You will be glad to learn that Dr. W. J. Goodhue, medical superintendent of the Molokai Leper Settlement, has after several years' work there been able to demonstrate the bacillus lepræ (Hansen) in the mosquito (Culex pungens) and in the bed bug (Cimex lectularia). I will quote from my brother's official report to the Hawaiian Board of Health:—

> "We have since been sectioning mosquitoes taken from various leper houses, but until last June [letter dated Feb. 10th, 1906] without any apparent success. At that time it appeared that we had isolated

intestinal opening. *The evidence shows, however, as I said* previously, that so far as the details of the operation are concerned it is the low opening in the jejunum which dis*poses to ulcer; and I submit* that this is so, even when the restrictions as to time, which Mr. *Paterson desires,* are made.

As regards regurgitant vomiting, Mr. Paterson and I agree that *there is obstruction at the anastomosis. He* places it at the efferent *opening, saying,* "I have witnessed a considerable number of necropsies on patients who have died from regurgitant vomiting and in every instance the waterlogging was clearly secondary to *definite mechanical obstruction* at the efferent opening." That may be, as Mr. Paterson claims, an "observed fact," though I am unaware of the nature of the *evidence which supports it. Facts,* as we know, depend sometimes for their existence, and often for their interpretation, upon the point of view of the observer. I cannot lay claim to the same kind of experience that Mr. Paterson has, but I *have operated upon a certain* number of these cases and the chief demonstrable condition has been a thick, overfull, proximal loop. That also is an observed fact which has *been corroborated* by several surgeons. In these cases an entero-anastomosis or Roux's *operation* relieved the *obstructive* vomiting.

Mr. Paterson asks, "Is there a particle of evidence that a healthy piece of intestine can become waterlogged apart from mechanical obstruction?" and *adds* "*the whole of the* small intestine is a series of loops. Do these loops ever become waterlogged apart from the conditions mentioned?" *These questions are hardly relevant.* We are not *concerned* in this discussion with loops of intestine, which are free to move where they will, but with a particular loop fixed naturally at one extremity—that is, at *the* duodeno jejunal flexure, and fixed unnaturally and in an abnormal *position* at the other—that is, at the anastomosis. I confess I see no resemblance between a loop both of whose ends are free and *a loop both of whose ends are attached. Any arguments* that might hold good relative to the one would be valueless in the case of the other. Mr. Paterson is straining a supposed *analogy too far. If, however,* he desires an argument by analogy, though *most argument* by analogy is necessarily imperfect, I would suggest for his consideration the conditions which exist when a loop of intestine, otherwise healthy, *is fixed by an adhesion or by a diverticulum.* Kinking *may* then result, and it is probable that distension may be active in bringing the obstruction about. Mr. Paterson attributes to me the belief in waterlogging as the "*primary factor*" *and the* "*primary condition.*" I do not so consider it and I did not use these words. The primary factor, of course, must be the fixation of the jejunum to the stomach.

Not only is the gut fixed to the stomach, it is also materially weakened *by the complete* division of its circular muscular fibres. Following *upon this is the occurrence of a kink or* "*buckle,*" *due,* as I consider, to the traction weight upon a part so weakened of a jejunal loop unable properly to empty itself. That the obstruction (which, as I said in my first *letter,* is "*the real cause*" of *regurgitant* vomiting) may affect the afferent as well as the efferent opening is shown by the fact that suspension of the proximal loop by anchor sutures *lessens the probability of the* occurrence of this complication. That the obstruction is due to the loop is shown by the fact that in the absence of a loop it does not occur though *the method of* making the *anastomosis remains* the same. If the loop plays no part in the causation of regurgitant vomiting and if the obstruction is always at the efferent opening, how comes it that the abolition of the *loop in secondary* operations, by *its division* and the performance of Roux's operation, relieves the vomiting though the anastomosis itself remains untouched? And how is it that a loop *becomes* waterlogged *which is free to empty* itself through an *unobstructed* afferent opening and that when vent is given to a waterlogged loop by entero-anastomosis the obstructive vomiting *in almost every case is at once* relieved though no change is made at either afferent or efferent opening?

Mr. Paterson, in answer to my query as to the existence of a surgeon who can *bring forward* any large series of cases of the anterior operation which will compare in results either immediate or remote with those *obtained by the* posterior method, quotes *Dr. W. J. Mayo.* He could not have chosen *a better* authority for my purpose, for, as Mr. Paterson says, Dr. Mayo with his enormous experience of both methods prefers the posterior. The sentence in *Dr.* Mayo's article which Mr. *Paterson* italicises as to the percentage of *secondary operations being* greater after the posterior operation than after the anterior suits my argument very well. The secondary operations were due, almost exclusively, *to the* making of a loop in the posterior operation, a method Dr. Mayo has now abandoned. Dr. Mayo's position is, indeed, very much the same as my own. I have used the anterior operation, I have had good results from it, I still use it, when I *must,* I have used the posterior operation with the loop, and I have had to perform secondary operations, but for the many reasons I have given I *now* perform, and very decidedly prefer, the posterior no-loop method. Mr. Paterson *again* expresses *his* satisfaction with the anterior method. I cannot, of course, cavil at that; on the contrary, indeed, I admire Mr. Paterson's zeal and persistence and his touching faith all the more when I remember that in the little he told us of his own experience he had to chronicle in his lectures the death of two of his patients from regurgitant vomiting. But he has not, as I said before, told us what, if any, his *experience of the posterior* method is. *If he* will give that method a trial he will, I anticipate, come to the conclusion, as so many of us have done, that though the *anterior method is good* the posterior is rather better, and the posterior no-loop is best of all.

Mr. Paterson writes: "As yet I have not found any conclusive evidence to show that the results, either immediate or *remote,* are better *after the* posterior *than after* the anterior operation. If such evidence be forthcoming Mr. Moynihan need have no fear but that I shall act in *accordance with it.*"

Mr. Paterson's needs in the matter of evidence are difficult to estimate. As I have shown, in one matter he bases a *deliberate* statement of opinion upon *the* evidence afforded by one case when the circumstances were abnormal and unprecedented; in another he does not accept the evidence afforded by every available case, *as he wishes for an impossible verification* of that evidence "in every case." Nevertheless, I will endeavour to indicate where the evidence upon this subject may be found. *What, to begin with,* is the evidence that Mr. Paterson has already studied? He has told us in his lectures that he has "collected 247 cases of operation from British surgical literature of the last 20 years," *and has obtained* the after-history of 116 of these cases. Of these 116 cases there are 32 of my own, all but one being examples of posterior gastro-enterostomy. Of *the* remaining 84 cases it is not *stated what was the proportion* of *anterior and posterior* operations. Upon this evidence and upon his own experience, which, I suspect is confined to the anterior operation only, Mr. *Paterson* has formed his judgment. Well, I can offer Mr. Paterson *out of* my own experience—indeed, I have already sent to him—reports of a far larger number of cases than this. *So far as* immediate results are *concerned* my mortality, excluding the acute cases of perforation and hæmorrhage, is less than 1 per *cent.,* and I have now had 125 cases in *succession* without a death. So far as *the remote results* are concerned, Mr. Paterson has the material upon which to form his own opinion. He very properly, in estimating the remote results, says of his own investigations, "*only cases* which were operated upon more than two years ago are included." In the report I have sent to Mr. Paterson he will find that up to the end of April, 1904, there are 124 *cases of mine* whose *history was brought up* to date. I shall be glad for Mr. Paterson to make direct inquiry about them or about any of the later cases. Further, I would venture to suggest to Mr. *Paterson to include in his search* for evidence—evidence which already exists—what the surgeons whose names I gave him in my last letter and the several surgeons who spoke at the *recent* meeting of the International Society of Surgery have to say. The result of his research will be, I venture to predict, that he will find that, with *extremely* few exceptions, those surgeons *who are* doing, and *have* done, the largest work in this field have come to the conclusion, *after* trying all methods—anterior, posterior, *with or* without a loop, and Roux's *operation*—that the evidence is in favour of the posterior method, and he will further find that it is the *no-loop* operation that is the *almost* universal choice. If *Mr. Paterson* will take the opinion or watch the practice of these surgeons, and, above all, if he will give to the posterior no-loop operation a trial *equal to* that he has given the *anterior* method, he will then be in a better position than he now is to express an opinion upon the relative merits of the two methods. *I shall be interested*

24 hours. On the following day there was slight eye pain, with considerable reduction of the visual acuity. The pupils were of medium size and the reaction was normal. I advised her to remain in a darkened room, to have the eyes gently massaged, and to take a hot bath. I gave internally bromide of ammonium. She wore tinted glasses for some days and is now quite recovered.

The condition produced by exposure to excessive light is sometimes spoken of as blindness of the retina, anæsthesia of the retina, and neurasthenic asthenopia. "Retinal electrocution" is the term Darier uses when writing of the cerebral and retinal shocks produced by the passage of an electric current through the upper part of the body and the head. This suggests to me the term "retinal-cinematocution" for the condition produced by the intense flashes of white light. Those who have witnessed these living-picture displays must have experienced that peculiar "tiredness" of the eyes caused by exhaustion of the retina, and how gratifying it was to close the eyelids and thus relieve the strain. Until some improvement takes place in the mode of exhibiting these pictures and in rendering less intense the light the public should be warned of the danger and advised to wear tinted glasses when looking at them, and each display should not exceed one minute.

I am, Sirs, yours faithfully,

Dublin, May 5th, 1906. EDWARD MAGENNIS, M.D. R.U.I.

PASTEURISED MILK AND INFANT FEEDING.

To the Editors of THE LANCET.

SIRS,—In calling attention to a prevalent and growing evil the letter of Dr. G. A. Sutherland in THE LANCET of May 5th, p. 1280, is a highly important and valuable one. As far as the evidence of my cases quoted by him is concerned, he might have materially strengthened his position by mentioning the chief feature that was the main point of interest in each. The "extraordinary course" referred to in my paper was not the mere delay in the resolution of a subperiosteal clot but the formation of new bone in the detached periosteum in each of three consecutive cases of scurvy inadvertently fed on pasteurised milk. In one case where the change of milk instituted by the dairy company was not discovered and the infant died the newly formed periosteal bone was of remarkable extent, being thicker in places than the femur it surrounded. In the succeeding two, whilst on pasteurised milk, a thin layer of bone formed in the periosteum detached from the femur—a condition that was verified by skiagrams taken by Dr. G. H. Graham. On a change being made from pasteurised to fresh milk the new bone formation ceased in each and in the course of time that already formed was slowly absorbed. These three cases would seem apt illustrations of the dangers of pasteurised milk pointed out by Dr. Sutherland in his timely letter. I am, Sirs, yours faithfully,

London, May 7th, 1906. J. A. COUTTS.

PRIMARY CARIES OF THE MASTOID PROCESS AS A CAUSE OF MASTOID ABSCESS IN YOUNG CHILDREN.

To the Editors of THE LANCET.

SIRS,—I should like to supplement Mr. L. P. Gamgee's cases of caries of the mastoid (recorded in THE LANCET of May 5th, p. 1237) with two cases which have been recently under my care. My cases have many points in common with his, but not all. The first was that of a child, 15 months old, with a swelling behind the ear of six weeks' duration. The child never had "running ear" or any of the symptoms of pain usually associated with mastoid abscess. There was a large fluctuating swelling behind the right ear pushing it forwards. I incised this down to the bone, and after mopping away blood and pus found a sinus leading into the antrum. This I enlarged sufficiently to allow the antrum to be easily packed with gauze. I removed very little bone and only very gently used a small curette to scrape out the antrum. It was packed daily, and in five weeks the cavity was completely closed. I had an opportunity of examining the membrana tympani afterwards and found that it differed in no respect from the other side.

The second case was that of a boy, aged nine years. He began with a swelling behind the left ear, which continued to increase in size under assiduous poulticing. I saw him after six weeks of this treatment and found a large fluctuating abscess, extending over the mastoid and beneath the temporal fascia, pushing the ear markedly forwards. This boy never had earache or otorrhœa and during all the time he was under my care his temperature never ranged above 99° F. I incised as in the former case and found a sinus which from its high and anterior situation I thought opened into the attic, not into the antrum proper. This I enlarged and packed the cavity daily. At the end of seven weeks it was completely healed. The membrane at the present time is perfectly normal in appearance and the boy can hear a watch distinctly at 38 inches.

These two cases agree with Mr. Gamgee's in the following points: (1) absence of constitutional disturbance; (2) there never was otorrhœa; and (3) the swelling came on gradually with an absence of pain. They differ in the following: (1) the ear was pushed markedly forwards in both; and (2) there was hardly any destruction of bone. There was no caries except at the margin of the sinus itself.

I am, Sirs, yours faithfully,

Leeds, May 7th, 1906. J. STEWART.

APPENDICITIS AND PERFORATED DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 5th, p. 1262, in "Annotations," under the heading of "Appendicitis and Perforated Duodenal Ulcer," you say: "No case appears to have been recorded of the association of inflammation of the appendix with duodenal ulcer." May I venture to call your attention to the fact that in THE LANCET of Nov. 2nd, 1901, p. 1194, I published notes of a case of appendix abscess that I opened and that died from a perforated ulcer of the second part of the duodenum 11 days later. I also in the same note gave details of two other cases of perforated duodenal ulcer associated with a septic condition of the peritoneal cavity.

I am, Sirs, yours faithfully,

Leicester, May 7th, 1906. F. BOLTON CARTER.

THE EPIDEMIOLOGICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would kindly permit me to make a few corrections in the account published in THE LANCET of May 5th of a paper which I had the honour of reading before the Epidemiological Society on April 20th last on the subject of the meningococcus. In the first place, Elser of New York cultivated the meningococcus from the blood in 24 per cent. of the cases of cerebro-spinal fever which he examined, *not* in 7 per cent. as stated. "Colonies in broth" should read "colonies on nasgar," and "acetic" agar should read "ascitic" agar. Instead of saying that both the meningococcus and micrococcus catarrhalis were liable, as indeed were all micrococci, to occur as staphylococci and streptococci, I stated that they *were all* apt to occur as diplococci. Lastly, the disinfection experiments quoted were made against saliva, not against cultures of the meningococcus.

I fear that I myself am in great part to blame for these "terminological inexactitudes," because I failed to bring an abstract with me on the occasion in question.

I am, Sirs, yours faithfully,

Blackheath, May 8th, 1906. M. H. GORDON.

THE NOTIFICATION OF PULMONARY TUBERCULOSIS.—The Barnstaple (Devon) rural district council recently forwarded a resolution to the Local Government Board urging that pulmonary tuberculosis should be included amongst the list of notifiable diseases. At the meeting of the council held on May 4th a letter was read from the Local Government Board stating that pulmonary tuberculosis was not a disease to which compulsory notification could with advantage be applied, but as many authorities had made arrangements with local medical practitioners for the voluntary notification of this disease the Barnstaple rural district council could follow this course without the sanction of the Local Government Board and pay a reasonable fee for such notification.

> bacilli in these series of experiments, but *owing to the technique* employed it was impossible to positively confirm this ..... This method of research was then *abandoned.* . ... *Mosquitoes* were caught at random in leper houses, being captured with a net or sterile test-tube, and the same *subjected to a vapour of ether* when the mosquito became unconscious and was easily caught up with sterile *forceps* and *placed under the dissecting microscope.* ...... After repeated failures and the constant re-examination of fresh *specimens success has come as far as demonstrating* the bacillus *lepræ in* the female mosquito (Culex pungens). ...... Feb. 20th. Since writing you last I have discovered the bacillus lepræ in the bed bug. I believe that the cimex is more of a factor in the spread of leprosy *among the natives than the gnat*, for the *following* reasons, viz., the bed bug's *invasion* is noiseless and insidious, made during deep sleep of the victim, and secondly, the beds and bedding used in a leper family, *whether* the leper is dead or segregated, are reoccupied by clean persons without adequate disinfection and cleaning.

The bacilli have been found in numbers in the ovaries and Malpighian tubules of the mosquito. Full reports of the work with microphotographs and slides, &c., will be given publicity in May.—I am, Sirs, yours faithfully,

E. S. GOODHUE.
Government Physician.

Laaloa Holualoa, Hawaii, T.H., April 9th, 1905.

THE TREATMENT OF TEMPORARY FORMS OF MENTAL DISORDER.

To the Editors of THE LANCET.

SIRS,—I have read with very great pleasure your remarks in THE LANCET of April 28th, p. 1190, on the treatment of curable cases of insanity. As one who has *repeatedly* advocated the treatment of temporary cases of mental disorder *outside* a lunatic asylum it is gratifying to find that you are in sympathy with this solution of a very difficult problem. In THE LANCET of June 14th, 1902, p. 1681, I published a paper on the Relation of Mental Symptoms to Bodily Disease, and there I strongly advocated the provision in all large centres of the community of observation hospitals into which temporary forms of acute mental disease, such as acute alcoholic insanity, puerperal mania, acute toxic delirium, and acute transient forms of mania or melancholia, might be admitted and treated by skilled physicians for a period of six weeks. If at the end of that time the patient showed no disposition to recover then he should be certified for removal to a lunatic asylum. Whilst not in any way reflecting on the equipment, control, and scientific treatment of the present lunatic asylums there can be no doubt that a very large number of cases of mental disorder are certified as lunatics and sent to asylums when in reality they ought to be treated in the most modern and scientific way in a mental hospital. This might either be attached to the present general hospitals where they would have the advantage of a trained staff of physicians and students, or a mental hospital might be provided in large centres so as to filter out the quickly recoverable cases from the ordinary lunatics. My object in advocating this method is to obviate the necessity under the present Lunacy Act of certifying as lunatics a large number of cases of temporary mental disorder which are always occurring in large towns and cities. The stigma of lunacy ought not to be attached to these people, more especially to those suffering from puerperal insanity, but at the present time there is no place in which these people can be treated excepting the workhouse or the workhouse infirmary unless they are certified as insane and treated in the lunatic asylums.

I am, Sirs, yours faithfully,

NATHAN RAW.

Liverpool, May 2nd, 1906.

TO MEDICAL OFFICERS OF HEALTH: A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—For many years I have been greatly concerned in my midwifery practice with the heterogeneous class of nurses that I, in common with most medical men, come across, from the comfort of the well-trained to the continual anxiety caused by the mighty host of the ignorant and the unclean. A not uncommon state of things on entering a lying-in room is to meet the nurse with dirty hands and dirtier nails, perhaps after scrubbing the floor, and placing some foul garment to the vulva of the patient who is lying on, and surrounded by, such soft goods as old curtains, carpets, and, in fact, almost every kind of filthy stuff short of the door-mat. I have for many years endeavoured to teach these women habits of strict cleanliness. I never allow them to wash the genitals and when a napkin has to be changed I insist on their going through a process of first washing thoroughly their hands and nails, then soaking them in bichloride, and, finally, wringing a cloth out of a warm solution of bichloride before placing it next the patient, a dry one, baked, straight from the oven, being placed outside. The constant worry and anxiety in thus dealing with and teaching these women is intolerable and it struck me recently what boundless good—and at a very small cost—could be accomplished if the medical officers of health were to induce their parochial councils to get someone to give free, simple lectures on the essentials of monthly nursing to these folk, say once a week or even once a month, of an hour or two, and let certificates be given to the proficient.

Apart from the danger of septic trouble to the mother, the life of the infant is jeopardised by improper feeding and his lungs are impregnated at the very commencement of his life by foul air, the bedclothes almost invariably covering his head "that he may not catch cold."

If these women, by the method I suggest—simple, inexpensive, and feasible—are raised to a higher level, and if we medical men, one and all, adopt, as regards our own hands and nails and instruments and the person of our patient, prophylaxis as the most exacting can wish for, puerperal fever, as far as the profession is concerned, will become a rare disease. I am, Sirs, yours faithfully,

S. CONSTABLE.

Endymion-road, N., May 5th, 1906.

SMALL-POX IN THE "THREE TOWNS."

To the Editors of THE LANCET.

SIRS,—Those who have read the annotation in THE LANCET of May 5th concerning the outbreak of small-pox in the Three Towns (Plymouth, Stonehouse, and Devonport) are liable to entertain a misapprehension as to the total number of cases. The 214 cases mentioned have all occurred in Plymouth but there have also been 23 in Devonport and 17 in Stonehouse. Although the Three Towns are practically contiguous they are under separate municipal government. With regard to vaccination in Devonport many are quite unprotected and revaccination is very little sought after. Our first notification was received on Sept 30th, 1905, and we have had intervals as long as three and 11 weeks between the cases. I attribute the comparative immunity of Devonport to the fact that all contacts who can be prevailed upon are not only vaccinated but isolated as far as it is in our power till the incubation period is over. With four exceptions none of the cases which have occurred in Devonport have been traced to a pre-existing case, the rest having originated from contact with the disease outside the borough. So far there has not been a fatal case in Devonport although some of them have certainly been of a rather severe type.

I am, Sirs, yours faithfully,

O. HALL,
Medical Officer of Health.

Devonport, May 5th, 1906.

BLINDNESS AND THE KINEMATOGRAPH.

To the Editors of THE LANCET.

SIRS,—The transmission of light through the eye, "the window of the soul," may revolutionise the modes of producing anæsthesia, since very recently Professor Redard claims that he can produce a condition of general anæsthesia sufficiently deep for the painless performance of any operation of short duration by causing the patient to gaze fixedly on an electric light of 16 candle power inclosed in a blue glass globe, the patient's head and the lamp being covered with a blue cloth so as to exclude all natural light. He holds that each of the primary colours has a definite and characteristic effect on the higher nerve centres, red light having an exciting, yellow a depressing, and blue a calming influence. A case which recently came under my notice demonstrates the effect which an intense white light, such as is necessary for a kinematograph exhibition, may have on the sensitive retina.

A young lady, aged 21 years, consulted me with regard to what she called "a sort of blindness." The history was that up to the time she had witnessed a kinematograph display of about 15 or 20 minutes' duration she had "good vision and strong eyes," but that when leaving the hall she experienced a difficulty in seeing objects and felt as if she were entering a darkened room. This continued for two or three hours and then, as adaptation of the retina gradually took place, objects became more distinct. She had considerable headache, a sensation of dazzling, and spasmodic contraction of the eyelids. These symptoms remained for about country as well as town practitioners. The fee for the whole course of 15 lectures is £3 3*s*.

University of Durham Convocation.

On Saturday, April 28th, a convocation for the conferring of degrees was held in the great hall of the Durham University College of Medicine, Newcastle-upon-Tyne. As usual, the ancient pomp and glory of such a ceremony were kept up and the many-coloured gowns of the numerous professors and lecturers made a picturesque sight. Many guests had been invited for the occasion and the assemblage was a large one. There was a paucity of students but they did their best to cheer their comrades, though their hilarity seemed much less than in previous years. The Very Rev. Dean Kitchin, the warden of the University, presided. The degree of M.A. was conferred by vote of convocation upon Dr. James Limont, lecturer on medical jurisprudence in the Durham University College of Medicine. The degree of M.D. was conferred on six Bachelors, 19 gentlemen received the M.B. degree, and 18 the B.S., and the M.D. degree for practitioners of 15 years' standing was conferred on seven successful candidates. One gentleman received the B.Hy. and another the degree of B.Sc. The appointment of examiners in science and the confirmation of alterations in the University regulations dealing with the preliminary study for science degrees concluded the convocation. Afterwards most of those who took part in the proceedings were guests of the College of Medicine at a luncheon served in the council room.

Prevention of Consumption.

At the meeting of the county council of Northumberland on May 3rd the medical officer of health, Dr. J. W. Hembrough, made the following recommendations for reducing the amount of consumption in the county:—

1. Contributing to the funds of the sanatorium awaiting completion near Barrasford, which would enable a beginning to be made with isolation.
2. Arranging for notification (either voluntary or compulsory) of consumption.
3. Making indiscriminate expectoration a punishable offence.
4. The disinfection of rooms occupied by a consumptive patient or from which a consumptive person has been removed.
5. Facilitating the destruction of infective expectoration by providing, free of cost in necessitous cases, cheap flasks or paper handkerchiefs.
6. The appointment of lady health visitors or trained nurses who have gone through a course of instruction in hygiene.
7. Adopting and enforcing regulations under the Dairies, Cowsheds, and Milkshops Order and thus ensuring a milk-supply produced under more sanitary conditions.
8. More energetic action in the case of insanitary houses and their surroundings.

In connexion with these recommendations it is of interest to note that the Barrasford Sanatorium is rapidly approaching completion and is considered to be worthy to be classed with the best in the kingdom, but, unfortunately, it is necessary that some £5000 be forthcoming before the institution can be opened for the reception of patients. The committee, however, is making a great effort and it hopes that it may be able to receive patients this season.

Durham County Hospital: Convalescent Home.

This institution was opened at Harrogate on April 28th by the Right Hon. John Lloyd-Wharton. The home is situated in Cornwall-road, near Harlow Moor, within a few minutes' walk of the Kursal and its grounds. The building is a two-storeyed one with a basement and is constructed of Wakefield red bricks with white stone facings. Altogether there is accommodation for 22 patients, the matron, nurses, and staff. About £5500 of the required £6000 spent on the building have been subscribed, the funds having been liberally supported by the gifts of the Ecclesiastical Commissioners, Lord Durham, Mr. Lloyd-Wharton, and the colliery owners, while the miners themselves have honourably carried into effect the promise of subscriptions made some four years ago. The home is not in any way endowed and will require an income of from £600 to £700 but there should be little difficulty in raising this sum from so thickly populated a county as Durham, the mining population of which will, for the most part, reap the benefits of the home.

May 8th.

LITERARY INTELLIGENCE.—Mr. Werner Laurie will shortly publish for Dr. Ernest Walker a volume entitled "Modern Medicine for the Home."

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Pauperism and Vagrancy.

IN his opening address to the members of the Poor-law Conference which met at Malvern on May 1st, the President (Sir William Chance) drew attention to the great difference in the incidence of pauperism in the West Midland counties. In Warwickshire 19·5 per 1000 of the population were paupers, while in Herefordshire the proportion was 35·5 per 1000. Still more striking was the reference to individual unions. In the Clun union in Shropshire there were only 21·1 paupers per 1000 of the population but in the Dore union in Herefordshire there were 52·6 per 1000, although the two districts were similar in many respects. This great difference is no doubt due, as Sir William Chance stated, to laxity of administration, although some members of the Dore board of guardians have sought to justify their action by stating that the proportion of aged persons in the Dore district is higher than elsewhere. This is hardly correct, however, for at the last census there were in Dore out of every 1000 persons living at all ages 164 over 55 years of age, while in the Hereford union there were 171, in the Leominster union 175, and in the Weobley union 175 per 1000. These are all Herefordshire unions and in each the amount of pauperism is less than that which prevails in the Dore union. Sir William Chance, who was a member of the Departmental Committee on Vagrancy, said that the committee's plan of dealing with vagrants would get rid of a large number of casual wards and would bring the whole vagrant population under undivided control. The question of vagrancy had never been dealt with in a thoroughly scientific manner. The treatment of the vagrants had been left to the whims and wishes of local administrators and failure had resulted in the main from a want of uniformity. The Conference ultimately carried a motion endorsing the recommendations of the departmental committee.

The University of Wales.

A meeting was held on April 30th at the Royal College of Physicians of London to consider and to prepare the draft of a statute to establish a faculty of medicine for the University of Wales. Sir Isambard Owen (Senior Deputy Chancellor) presided and there were also present Sir Richard Douglas Powell, Dr. Donald MacAlister, Professor D. Hepburn, Professor J. B Haycraft, and Professor E. Jones.

Temperance Posters in Cardiff.

The health committee of the Cardiff corporation decided a few weeks ago to issue large placards pointing out the evil effects of drinking alcoholic liquors. When the recommendation of the committee came before the town council the town clerk, in reply to questions from some of the members, stated that there was no authority in the Public Health Acts or elsewhere for the expenditure of money for such a purpose. He was reminded that posters drawing attention to the importance of vaccination have from time to time been issued at the cost of the corporation, but he refused to be cross-examined, and in the end it was decided to take no action in the direction indicated pending the receipt of replies to communications which have been sent to some of those towns where no difficulties have been raised in connexion with the exhibition of the temperance posters.

Insanitary School Buildings.

The medical officers of health of two suburban districts in Glamorganshire refer in their annual reports to the need for improvement in the sanitary surroundings of some of the public elementary schools. Mr. T. J. Webster says that one of the "provided" schools in Vaynor and Penderyn, a district which adjoins Merthyr Tydvil, is very unsatisfactory, the walls and woodwork are dirty and badly need recolouring and painting, the lavatories are most unsuitable, and the flooring of them is in a very damp state from the overflow from the basins due to the waste-pipes being choked. In the Llandaff and Dinas Powis district which adjoins Cardiff Dr. R. Prichard describes the lighting of many of the elementary school buildings as unsatisfactory, and one school in particular he describes as being damp owing to the very easily remedied defect of dilapidated rainwater gutters. Other conditions described by Dr. Prichard are not at all creditable to the school managers.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Medical Guild.

THE Manchester Medical Guild pursues the objects for which it was founded with quiet persistence. One of these has been to watch the proceedings of those who in promoting the interests of their special philanthropic pets, the provident dispensaries, sometimes forget to do full justice to the medical profession, without the aid of which their schemes must collapse. One of these cases occurred some time ago but a satisfactory completion is only announced in the report for last year which has just been issued. A qualified medical man was charged before the General Medical Council with "accepting and continuing to hold the appointment of paid medical officer to the Rusholme and District Provident Dispensary, an association which systematically practised canvassing for the purpose of procuring patients." The General Medical Council held that the facts were proved and expressed its sense of their gravity but mercifully adjourned the consideration of the case to its next session so as to give the delinquent the opportunity of satisfying the Council as to his conduct in the interval. The matter has ended happily by the gentleman having ceased to act as medical officer to the Rusholme Dispensary. The Guild has thus been the agent of recovering to the fold one who had been tempted away and of saving him from a position that would have been unbearably invidious to any sensitive, right-minded person. One of the curious things about the promoters of these institutions is that they are honestly philanthropic in their intentions, but in their wish to help one section of the people they are careless or blind to the wrong they propose to practise on another section. This blindness is, one would suppose, not often found in minds packed full of legal subtleties, or is it, indeed, on the other hand, the result of entanglement in a mesh of fallacious sophistries? It was largely in consequence of the above case that on Dec. 1st, 1905, the General Medical Council issued a general warning against advertising or the employment of agents or canvassers to obtain patients. The working of the Midwives Act has received much attention by the council of the Guild and an important letter was elicited from the Local Government Board stating that under the Public Health Act of 1875 and the Poor-law Amendment Act of 1848 local authorities could, with the consent of the Board, pay fees to medical men in such cases. Acting on this letter the corporation of Manchester obtained permission from the Local Government Board, and for this purpose allowed in the city estimates for the year a sum of £500. The suggestions of the Guild council have been adopted almost in their entirety by the British Medical Association, especially upholding the principle that "attendance on midwives' cases should be open to every member of the profession." The city council decided on a maximum fee of 21*s*. Attention has also been directed to other matters interesting to the profession—e.g., the relations of general practitioners to operating surgeons, testimonials from medical men in favour of proprietary medicines, the proposals of the British Medical Association as to a public medical service, vaccination law amendment, &c. Nowadays every cause has its organ in the press and the *Guild Quarterly* sustains its part with an energy and talent not always found in more pretentious literary ventures.

Adulteration of Food.

Judging from the Lancashire county analyst's report for the quarter ending March 31st last, the chief victims of adulteration are children, as the principal consumers of milk, and those adults who indulge more or less in alcohol. It appears that 795 samples were analysed under the Sale of Food and Drugs Acts, 43 of which offended against the law. Of milk 235 samples were examined, 21 of which were below the required standard. 144 samples of spirits for consumption were analysed and came out better than the milk, only seven of them being faulty. In addition to these 40 samples of whisky were examined, and found to consist mainly or entirely of patent-still spirit. Milk, which is so rapidly perishable and so easily contaminated, offers special temptation to the fraudulent, either by dilution or the addition of preservatives. Æsthetically the most revolting contamination is from the too often filthy hands of the milker, for it is a far cry to Izaak Walton's idyllic milkmaid from the unwashed udder and the occasional splash into the can of the ordure-laden tail. It is strange that while so much attention is being paid to these matters too many of the farmers have scarcely the most primitive instincts of cleanliness. Of course, there are exceptions and the sooner they become the rule the better. Then in most farms little heed is paid to protecting the milk from microbe-laden dust on its way from the cow to the consumer. Altogether, we are in a very backward condition as to the management of our milk-supply, and it is not to our credit. The wonder is not that disease is conveyed by milk but that so little harm, on the whole, is done. The last does not seem to be heard of the rival pot-still and the patent still.

Dainty Food!

We now and then get infamous foodstuff sent to Manchester but a good deal of it is intercepted before further mischief is done. At Macclesfield the other day the magistrates were told of the following suggestive case. A dealer bought a cow for 10*s*. 6*d*. and sold it at a handsome profit for 30*s*, when it was killed and no doubt skilfully dressed by the slink-butchers and the meat sent to Manchester as food for the people.

The Care of the Blind.

On Saturday last a conference was held in Manchester under the auspices of the Manchester and Salford Blind Aid Society, at the St. John-street branch of the Royal Eye Hospital, on matters relating to those blind persons who live outside institutions. When we think of the few blind people met with as we go through the streets it comes as a surprise that in 1901 the returns showed that there were 25,317 in England and Wales. Of these 5676 were employed in some profession or business, while 2560 were provided for industrially in workshops and institutions. Representatives from various societies and institutions throughout the country were present and it is encouraging to know that these unfortunate and often necessitous persons are not forgotten. The holding of local conferences from time to time was advocated not only as conducing to coöperation and so preventive of overlapping but as attracting the attention of the public to the work and its needs. The claims of workshop employment for the blind was strongly advocated for those who had completed their training and were qualified to do some kind of work. It secured constant work, a living wage, and proper oversight and care.

Manchester Jewish Hospital.

An appeal for help for the Manchester Jewish Hospital has been issued, the response to which ought not to be limited to one section of the community. Though, of course, there is much wealth among the Jews, it is accompanied in Manchester by much poverty. The benefits of the institution are open to all deserving applicants without distinction of creed and are fully appreciated by non-Jews. But there is a debt on buildings and equipments of £3500 to be cleared off and an annual deficit of about £550. This is a fair sample of such appeals. The institution is deserving and well managed, but each repetition of the well-known story marks the urgency of the question, What is to be the future of our hospitals?

Bequests.

Mr. Horatio Bright of Lydgate Hall, Sheffield, left large bequests to medical charities, £50,000 to the Buxton Bath Hospital, £10,000 to the Manchester Infirmary, £10,000 to the Leeds Infirmary, and £10,000 to Guy's Hospital. He left also £20,000 to the National Lifeboat Institution. "He directed his body to be taken to his mausoleum at Moscar Rest on a dray and there laid without any religious or other service."

May 8th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Post-Graduate Instruction.

A COURSE of lectures and demonstrations has been arranged in connexion with the Royal Infirmary, Newcastle-upon-Tyne, and will be carried out during the months of May, June, July, and September. The lectures will be delivered by the honorary staff of the Royal Infirmary on Wednesdays at 4 P.M. and 8 P.M. alternately to suit the convenience of

Senate on May 4th when the following motion was adopted unanimously:—

> That, having regard to the official pronouncement made in the House of Commons on March 15th by the Chief Secretary that His Majesty's Government had been advised "that the Senate of the Royal University of Ireland had the power to maintain order, and to take all steps necessary to that end," the Senate hereby direct the standing committee to prepare a draft of such statutes and regulations as shall provide the necessary means to enforce academic discipline and to punish academic misconduct.

In reference to the disorder last October it was directed that the minutes of the Senate meetings, &c., relating thereto should be supplied to the Government.

The Health of Belfast.

The public press in Belfast is at present full of communications dealing specially with the problem of consumption in Belfast. It would appear that for 12 years past the average annual death-rate from pulmonary tuberculosis has been 3·3; in 1894 it was 3·8, and in 1895 it was 3·1, a death-rate almost twice as high as any corresponding city in England or Scotland. Further, from pulmonary tuberculosis alone over 1000 people die every year in Belfast, and if the other types of tuberculosis be included it is calculated that 1500 of the Belfast citizens die annually. On May 4th the announcement was made that the medical officer of health had resigned and on May 8th there was a great meeting of the citizens under the auspices of the Citizens' Association to consider the deplorable state of the public health in Belfast. Not for years has so much public opinion been aroused on any question in Belfast as there is at present as to the public health, and it is hoped that some good will accrue and that really practical measures will be adopted.

Insanity in Ireland.

The Royal Commission on the Care and Control of the Feeble-minded heard evidence in Dublin on May 5th, when the Irish Registrar-General, Mr. R. E. Matheson, LL.D., stated that in 1861 the proportion of lunatics and idiots to the population in Ireland was 1 in 411; 25 years later it was 1 in 281; and in another 20 years, in 1901, it was 1 in 178. There have been increases of insanity in England and Scotland but not to the same extent. In England and Wales the proportion of insane per 10,000 of population increased between 1871 and 1901 from 30·39 to 40·79; in Scotland the increase was from 33·97 to 45·37; while in Ireland the increase was from 30·49 to 56·18. Of the causes for this terrible state of affairs in Ireland Mr. Matheson mentioned three: First, the return from the United States of Irish men and women who have lost their health and reason while working there. In Ireland they were supporting not only their own lunatics but a considerable number drawn from the Irish population of America. He advises that severe penalties should be imposed on shipping companies who attempted to land persons of unsound mind without the Lord Lieutenant's licence. Secondly, heredity. No person who has been detained as a lunatic or an idiot should be allowed to marry without the special permission of the Lord Chancellor, obtainable only after a full consideration of the circumstances. Thirdly, drink. No doubt the emigration from the country of a large proportion of the young and healthy and a return to it of those whose reason has been affected while in America have a good deal to do with the increase of insanity in Ireland.

May 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Operative Decortication of the Lung.

AT a meeting of the Academy of Medicine held on April 10th M. Picqué gave details of the case of a man, 21 years of age, who in July, 1905, was stabbed with a knife in the right interscapular region on a level with the fourth intercostal space. When taken to a hospital the patient presented all the signs of extensive hæmothorax, accompanied by severe dyspnœa, pyrexia, &c. Thoracotomy was immediately performed and resulted in the escape of a litre of blood mixed with clots. As the patient's condition did not improve partial resections of ribs were performed several times in the course of the ensuing months but without benefit, until a final resection, more extensive than the others, showed that the right lung was completely immobilised by the visceral pleura which was considerably thickened. The greater portion of this pleura was then resected according to the method of Delorme, after which the lung immediately became released and formed a hernial protrusion between the edges of the pleural incision. From this date the patient rapidly improved and he may now be considered as quite recovered.

Medical Excursions.

The eighth medical excursion will take place from Sept. 1st to 12th and will be under the general direction of Professor Landouzy. The places to be visited are health resorts in Savoy and Dauphiné; they will include Hauteville (where there is a sanatorium), Évian, Thonon, Saint-Gervais, Chamonix, Annecy, Aix, Marlioz, Le Revard, Challes, Salins-Moutiers, Brides, Pralognan, Allevard, Bonquéron, La Motte, and Uriage. 12 grants in aid of the expenses (*douze bourses de voyage*) will be made on the occasion of the excursion in 1906. These grants are directed by their founders to be awarded as follows: (1) to an English, a Belgian, a Danish, and an Italian medical man; (2) to two medical members of the Concours Médical and of the General Association of French Medical Men; (3) to two resident medical officers (*internes*) of Paris hospitals; and (4) to a student of each of the medical faculties of Bordeaux, Lyons, Paris, and Reims. For further information application should be made to Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, or to Dr. Jouaust, 19, Rue du Colisée, Paris.

A New Thermo-cautery.

At a meeting of the Surgical Society held on April 11th M. Routier showed for M. Granel a new thermo-cautery in which light mineral oil is burned. Its special feature is that the reservoir for the oil is very small, has inside it a sponge soaked with the oil, and is entirely contained within the handle of the cautery, an arrangement which is a great convenience in using the instrument. The reservoir cannot explode and holds sufficient oil for four hours' work. There is a special device for regulating the temperature of the cutting edge and the cautery will act even when introduced into cavities containing much fluid.

The Medical Service of the Navy.

A regulation has been recently made, according to which young men admitted either to the chief naval medical school or to the naval training school (*école d'administration de la marine*) or to administrative duties in connexion with the naval reserve (*inscription maritime*) shall, on entering the school or on being nominated to an appointment, bind themselves to remain on active service for at least six years from the date of receiving the rank either of medical officer or dispenser of the third class, or of assistant medical officer or assistant dispenser of the second class, or of clerk of the third class.

The Family of the late Professor Curie.

The Council of Ministers has decided that on the reopening of Parliament the Minister of Public Instruction and Fine Arts shall submit to the Chamber of Deputies a Bill to provide a pension (*pension nationale*) for Madame Curie and her children.

The Strike of Printers.

In consequence of the printers being on strike several important medical journals have been unable to appear at all during the last two weeks and others have been considerably delayed. It is to be hoped that this unfortunate state of affairs will not continue much longer.

Pulmonary Gangrene after Attempted Suicide by Drowning.

At a meeting of the Société des Hôpitaux M. Bergé read a paper on the case of an insane woman, 31 years of age, who threw herself into the Seine at Paris last winter. Rescued in an unconscious state and removed to a hospital she suffered from two successive varieties of pulmonary lesion at several days' interval. At first there was at the base of the right lung an area of broncho-pneumonia and then at the base of the left lung there was an area of pulmonary gangrene with fœtor of the breath and of the expectoration. These two conditions, both of which terminated in recovery, were evidently caused by the bacteria of sepsis and of putrefaction contained in the Seine water which had made its way into the air passages. The coldness of the water and the mental depression which instigated the suicidal attempt would probably assist in the development of the pathological processes.

May 7th.

Appointment of a Medical Officer of Health at Chipping Sodbury.

At a meeting of the Chipping Sodbury rural district council held on May 3rd a letter was read from the Local Government Board inclosing draft copy of a provisional order for union of districts under Section 286 of the Public Health Act, 1875, for the appointment of a medical officer of health and requesting any remarks from the council upon the subject. The order is to unite the following district councils by appointing a joint committee of 18 from them—namely, Awre, Cirencester, Newnham, Tetbury, and Westbury-on-Severn urban districts, and Chipping Sodbury, Cirencester, East Dean, Gloucester, Lydney, and Tetbury rural districts. The letter added that Chipping Sodbury having given notice of objection this procedure was necessary, and the Local Government Board further stated that the officer appointed must submit to the joint committee copies of every report which he makes in regard to any part of the district and any difficulties arising will be finally decided by the Board. After a long discussion, during which a motion was proposed "That the council offer no opposition to the provisional order" and was defeated, an amendment was carried by 11 votes to 4 that the "council protests against the action taken by the Local Government Board."

Aberystwyth Board of Guardians and its Medical Officer.

At a meeting of the Aberystwyth board of guardians held on April 30th it was decided to reappoint Mr. G. R. E. Bonsall as medical officer to the workhouse, provided that he agreed to the appointments held by him under the guardians being included in one appointment, and to increase his salary by £15 per annum.

May 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Edinburgh: Meeting of the General Council.

IN THE LANCET of May 5th, p. 1266, there was published an abstract of the business to be brought before the meeting of the council held on May 2nd, in so far as it dealt with matters of medical interest. It may be recalled that a new draft ordinance was submitted to the council proposing important changes in the medical curriculum. The draft ordinance had been in the hands of the very capable business committee of the council for some time, with the result that not only the draft ordinance but the amendments and additions proposed by this committee to be made to it were in the hands of the members of the council before the meeting. The report of the business committee was submitted by its convener Mr. Buchan and seconded by Sir James Russell. Professor D. J. Cunningham, Dean of the Faculty of Medicine, while supporting the report, took some exception to the clause providing that students might be prevented attending more advanced classes when they had not passed the earlier examinations; he did not, however, press this point, with the result that the report was unanimously adopted. When Mr. Buchan submitted the report he read a letter from Principal Sir William Turner in which he said: "The report of the business committee has been sent me and I have read it with much interest. Many important questions have been under consideration and I have been specially interested in the part referring to the medical ordinances. The import of the proposed changes has been stated with lucidity and I hope that the committee's recommendations will be adopted." After the part of the report dealing with the proposed changes in the medical curriculum had been thus unanimously passed, the portion which dealt with the method of legislation by ordinance was submitted by Mr. Buchan and seconded by Sir Andrew Mure, who dwelt upon the extraordinary fact that the universities of Scotland were tied hand-and-foot in the matter of legislation. This was also unanimously approved, the council deciding that it should be represented to the University Court that (*a*) the time has now come when the Government and Parliament should be asked to confer upon the Scottish Universities severally a large measure of autonomy; and (*b*) the business committee should take steps, either in conjunction with other academic bodies or otherwise, to forward the matter. Two other minor proposals were approved by the council: (1) That the hour of meeting for the future should be half-past three; and (2) that the notices of meetings and reports should be posted to members of the council in England, these hitherto being only sent to members resident in Scotland.

Small-pox in Glasgow.

In THE LANCET of April 28th, p. 1212, reference was made to a case of small-pox occurring in an alien emigrant while passing through Glasgow *en route* for America. Dr. A. K. Chalmers, medical officer of health of Glasgow, pointed out at that time the risk arising from the present method of housing alien emigrants and the force of this criticism has had an unfortunate illustration during the past fortnight. Since the removal of the first patient to Belvidere a frequenter of the hotel in which he was lodged has developed the disease and it is worthy of note that this patient's room was on the same floor as that occupied by the emigrant who first developed small-pox. As several inmates of the hotel had visited this second patient in his room before the symptoms had fully developed it was found necessary to isolate them, and on account of difficulty experienced in inducing them to comply with the suggestions made a warrant under the Public Health Act had to be obtained for the purpose. If there is any risk of small-pox being introduced and spread in this way by alien emigrants it is far from reassuring to note that of the 311 foreign emigrants housed in one week last month by the shipping companies prior to the departure of their vessels 63 were lodged in eight lodging-houses and one hotel in which non-emigrants also were accommodated.

May 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Rotunda Hospital, Dublin.

A "CHARTER" meeting of the board of guardians of the Rotunda Hospital was held on May 4th, Mr. O'Brien Furlong, C.B., presiding. Dr. R. D. Purefoy and Dr. James Little gave notice that at the next "charter" meeting of the hospital they would move:—

> That Mr. F. T. Heuston, the consulting surgeon to the hospital, be elected to the vacancy on the board caused by the death of the late Sir William Findlater.

Notice was given by Dr. Purefoy and the Master that at the next meeting of the board they would move and second:—

> That a consulting oculist to the hospital be appointed.

Surgeon-General C. Sibthorpe, I.M.S., C.B., F.R.C.P. Irel., L.R.C.S. Irel.

I regret to announce the death of Surgeon-General Sibthorpe which took place on May 4th at his residence, 38, Upper Leeson-street, Dublin. He served in the Burmese campaign of 1885-86 and received honourable mention with the medal and clasp. He also served as deputy surgeon-general in the Afghan war, for which he was mentioned in despatches and received the medal. The late surgeon-general was the author of an important work on "Indian Clinical Research" and of various essays and treatises on medical subjects. He was born in 1847 and was therefore in his fifty-ninth year.

Royal University of Ireland.

At the recent M.B. examination of the Royal University of Ireland a first-class exhibition (£40) was awarded Mr. Robert Jamison of Queen's College, Belfast, and a second-class exhibition of £25 to Mr. W. J. Leighton of Queen's College, Belfast, while another candidate, Mr. W. A. McKee, obtained first-class honours in medicine and second-class in surgery. All the honour distinctions of the M.B. went to students of Queen's College, Belfast. At the second examination in medicine Mr. James M. O'Connor, from the Catholic University School of Medicine, obtained first-class honours and a first-class exhibition of £25, while at the third examination in medicine Mr. W. D. O'Kelly, Catholic University School of Medicine, obtained a first-class exhibition of £30, and Mr. Marshall F. Huston of Queen's College, Belfast, was awarded a second-class exhibition of £20.—Some little excitement was caused among the rowdy section of the undergraduates of the Royal University by a recent article in the *Times* advocating their being punished and by Mr. Bryce's statement in the House of Commons on May 3rd that the Senate had the matter under consideration. There was a full meeting of the members of the low sick-rate and shows an excellent state of health of the labourers.

Yellow Fever Inspection and Publicity

The city of New Orleans suffered so severely from yellow fever last year from the inefficiency of health authorities that the citizens are taking early precautionary measures against the mistakes then apparent. At a large and representative gathering of citizens recently it was determined to render the city immune against this pestilence, a condition which they believed entirely possible by the strict enforcement of the anti-mosquito ordinance and such other sanitary measures as can be readily undertaken. The meeting earnestly urged each of the ward organisations to perfect its inspection service and pledged the funds necessary to carry on the work. This determined action of the citizens to take all needful precautionary measure against a repetition of last year's experience is extremely encouraging. The Parish Medical Society met soon after and resolved to enforce immediate reporting of every case by physicians, declaring "That any member of this society failing to make such a report will be deemed guilty of unprofessional conduct and be tried for such."

The Standard of Immigrants Raised.

The new immigration Bill before Congress fixes a higher standard for immigrants than has ever prevailed. The head tax is raised from $2 to $5; the educational test requires that every person above the age of 16 years admitted to the United States shall be able to read some language, every adult male immigrant must have at least $25 at the time of landing and every adult female immigrant at least $15, but heads of families may be admitted with their entire families provided they have $50. It places in the excluded class imbeciles, the weak-minded, and manual labourers of poor physique and gives the Department of Commerce and Labour discretion to admit or exclude immigrants under 16 years of age coming to this country alone.

The Philippine Medical Association.

The report of the annual meeting of this association is full of interest, as its proceedings illustrate the progress of medicine in the islands. The meeting was held on Feb. 28th, under the presidency of Dr. Victor G. Heiser. The association was addressed at its opening by the Secretary of the Interior, the Hon. Dean C. Worcester, formerly of Ann Arbor University, Michigan, who stated that the number of medical practitioners, good, bad, and indifferent, was absurdly small; there was one physician to every 18,399 inhabitants, and, outside of Manila, there was only one to each 50,455 inhabitants; and in a number of provinces there was no medical man of any description. He stated that the Japanese had conferred incalculable benefit upon medical science by their recent demonstration of what could be done to combat epidemics and to protect soldiers and sailors in war. The relations between the medical officers of this Government and those of the Japanese Government had been of the friendliest and most helpful character. In the early days serums and prophylactics were furnished by the Japanese. The control of the cholera epidemic by modern methods had been an impressive lesson to the people of the islands and especially important had been the preparation of cholera vaccine by the director of the Biological Laboratory, which had been proved to produce an extraordinarily high blood immunity against that disease. The Secretary spoke of the necessity of improving the hospitals and concluded by highly complimenting the work of the medical profession. The President, Dr. Heiser, reviewed the progress of medicine in the islands and stated that medical science held the key to the prosperity of the people; the last year had been of great importance in regard to medical progress by the passage of the Act establishing a medical school. The Philippines with an educated native medical man for every 1000 inhabitants would be a very different country with a different history; educated Filipino sanitarians were needed. Since the last meeting St. Paul's Hospital had been established in Manila; the Episcopal Church had completed the necessary arrangements for establishing a general hospital; the Methodists had opened a dispensary and were soon to have a maternity hospital in operation; the navy had completed a hospital at Canacao in Cavité; the army had completed another at Fort William McKinley; the Government had established a sanatorium in the mountains of Benguet; dispensaries were now operated by church organisations or by the Board of Health at many places throughout the provinces, while the indigent poor had been supplied with large amounts of medicine in remote districts. Many interesting papers were read during the sessions of the association and the spirit manifested was of the most inspiring character.

April 20th.

Obituary.

MATTHEW BAINES, M.D. LOND., M.R.C.S. ENG.

THE death occurred on Saturday last, May 5th, of Dr. Matthew Baines, of Cranley-place, South Kensington, one of the best-known and most highly respected general practitioners of the neighbourhood. Dr. Baines was educated at King's College, London, and entered the medical school of King's College Hospital more than 60 years ago, when George Budd and R. B. Todd were the physicians on the staff and William Fergusson and Richard Partridge the surgeons. He was therefore a contemporary at the school with Dr. Lionel Beale whose death we chronicled a few weeks ago. In 1845 Dr. Baines obtained the diploma of M.R.C.S., becoming also a Licentiate of the Society of Apothecaries of London; a little later he graduated in the University of London as M.B., obtaining the University medical scholarship and the gold medal for medicine. He was therefore marked out from the first as one who was going to succeed in his profession. After a course of study in Paris, at that time a usual proceeding with the more ambitious among English students, and after filling various minor appointments he proceeded to the M.D. degree and settled down in general practice. For very many years he practised in South Kensington where he was regarded as the *doyen* of the profession and where his wide scientific and general knowledge, his unfailing courtesy, his frankness, his charity, and his strict respect for professional methods gained him the esteem not only of a large number of patients but of all his medical brethren. "Dr. Baines was especially anxious to support all movements that might bring the medical man into closer touch with the public," writes an old friend, "and his interest in the Volunteer movement and in ambulance work *shows this.*" He was a Surgeon Lieutenant Colonel in the 1st Middlesex Volunteers and possessed the Volunteer Decoration and was also a Knight of Grace of the Order of St. John of Jerusalem. He was also on the council of, and local secretary for, Epsom College. Until quite lately Dr. Baines had borne his years well but recent family bereavements had tried him sorely. He practically died in harness, a veteran universally respected.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Vincent Paulet, formerly professor of anatomy in the University of Montpellier.—Dr. Karl Fürstner, professor of mental diseases in the University of Strasburg.—Dr. Max von Braun, formerly body physician to the King of Bavaria. He was the son of Professor Jacob Braun.—Dr. R. Thomé, *privat docent* of anatomy in the University of Strasburg.—Dr. Ludwig Kleinwaechter, formerly professor of midwifery in the University of Innsbruck. He contributed a number of articles to Eulenberg's Real Encyclopädie and to Hirsch and Gurlt's Biographical Dictionary of Medical Men.—Dr. Benjamin S. Roseberry, formerly professor of materia medica in the Baltimore University.—Dr. John B. MacCallum, assistant professor of physiology in the University of California, San Francisco.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Octavius Edward Bulwer Marsh, M.R.C.S. Eng., L.R.C.P. Edin., J.P., of Newport, Monmouthshire, was, at the Newport Constitutional Club on April 28th, presented with a silver tray and a pair of silver jardinières as a mark of respect and esteem on the occasion of his "silver wedding."—On May 1st Mr. G. L. Kerr Pringle, M.D. Edin., of Whitley Bay, Northumberland, was made the recipient of a Jacobean tea service, together with a sum of money, as a mark of esteem and respect on his leaving the district. Dr. Pringle has only resided in Whitley for a few years but the popularity which he has gained in that time was shown by the way in which the testimonial was supported and by the enthusiasm displayed by his friends at the presentation.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Sixth International Congress of Criminal Anthropology.

ONE fact which emerged from the discussions at this last and, on the whole, most successful of the International Congresses of Criminal Anthropology would suffice of itself as a *raison d'être* of the series—namely, the increase of juvenile crime and the progressively younger age of the criminal. Professor van Hamel of Amsterdam, M. Louis Albanet, juge d'instruction in the High Court of Justice in Paris; M. Paul Kahn of the Parisian bar, and the Signorina Ida Faggiani of the "Istituto dei Frenastenici" in Turin, all of whom read papers on the subject of juvenile crime, were at one on this gravely significant fact. Professor van Hamel led off with a luminous survey of the whole field of "young delinquency" and proceeded to suggest some drastic reforms in the traditional modes of dealing with it. The practice of segregating juvenile criminals *en masse* he would replace by the process of "selection" after a methodical and practical examination of each individual case. Treatment of the penal kind, whether in prison or penitentiary, ought, he urged, to partake more and more of the educative character, approaching as nearly as circumstances admit, to the family ideal. So conceived, the "punitive" discipline should be graduated in the order: (1) of admonition; (2) of amendment; (3) of brief sojourn in a house of correction; (4) of conditional condemnation to such a house; (5) of systematic and specialised education up to adult years in a Government institution; and (6) of emigration. All cases which after the adult age continued to show themselves incorrigible and dangerous would have to be subjected to surveillance, vigilant and systematic, in houses organised *ad hoc* (*maisons de santé*, houses of labour, and such like). Bold and comprehensive as are Professor van Hamel's proposals, he contends that they are quite practicable and have indeed been carried out with gratifying results in the United States of America. Expensive they would undoubtedly be to put in working but in the long run they would be a source of economy to the body politic. Italy in particular, where crime attains such formidable proportions, would find it cheaper to make a trial of Professor van Hamel's proposals than to continue in the vicious evils in which she has long been gyrating—adding yearly to her prison accommodation and prison staff only to send out the criminals (often prematurely) more than ever prone to crime and proficient in its ways. Not a few of the Dutch professor's auditors who took part in the discussion were even prepared to institute the "juvenile courts of justice" so successful in some of the States of the American Union—courts specially fitted to deal with young offenders, to take note of their individual characters, moral and physical, and to put them under influences conducive to their rehabilitation. Following on Professor van Hamel's lines, M. Louis Albanet reported very favourably on the "Patronage Familiale" as carried out in Paris—a medico-pedagogic clinique—the working of which was still further illustrated by M. Paul Kahn in a paper which sent something like a thrill through the audience in its accounts of the increasingly early age at which the young delinquent is taken up. Some cases, indeed, are nearer the infantile than the boy aged Monday's sitting (April 30th) was chiefly interesting for a brilliant paper by Signor Enrico Ferri who sits in the Italian Parliament for the constituency of Gonzaga. His theme was

The Prophylaxis and Therapeutics of Crime.

Assuming the position that the criminal ought, so far as possible, to be regarded as a "patient under treatment," he pleaded for a more elastic scale of punishment than that traditionally enforced in the law courts. The prison penalty determined to expire at a stated time is, he urged, quite ineffective. Either it constitutes a useless constraint in the case of individuals who have "amended themselves" before the expiry of their term, or it is without good results for those who, having served their time, are as bad as, if not worse than, before. In Italy, he said, society takes back to its bosom delinquents more formidable, more dangerous to it than ever, while it keeps in prison those whose moral rehabilitation is such as to make them useful citizens. Arguing from these premisses Signor Ferri would recommend a periodical revision of condemnations to prison, so as to admit of the restoration to liberty of those who are really reformed, while, on the other hand, prolonging the sentence of those whose criminality is undiminished, if not intensified. These bold suggestions found more encouragement from the Italian than from the other auditors, Italy feeling year by year the increasing burden of her congested prisons. The discussion with Signor Ferri's reply on the whole issue was one of the most fascinating on the agenda paper and will be found of special interest in the official report shortly to be issued. Signor Garofalo, the Venetian Procurator General, contributed a well reasoned paper in which, following on Signor Ferri's lines, he urged the necessity of instituting establishments for the detention, *in perpetuo*, of criminals declared irresponsible owing to mental incompetence. The last paper of supreme interest was that of Professor Sommer of Giessen on Recent Methods of Criminal Psychology, illustrated with graphic delineations. These latter and the reproduced "projections" which accompanied the reading of other contributions will be found an equally attractive and instructive feature in the "Atti" of the congress soon to be made *publici juris*.

May 5th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A National Quarantine.

THE Bill creating a national quarantine in the United States has passed Congress and with the approval of the President, which is assured, will become law. The enactment of this measure marks the breaking down of the old "State Rights" prejudices which have been a bar to progress in public health legislation on the part of the General Government ever since its first organisation. This measure is, however, but a step in the right direction, for it is limited to certain ports especially liable to the introduction of yellow fever. The law is well drawn, for it gives the Secretary of the Treasury, and through him the surgeon-general of the Public Health and Marine Hospital Service, the control of all quarantine stations, grounds, and anchorages, and directs that he shall select suitable places for them and establish the same at such points on or near the sea coast of the United States, and on the Mexican border, in order to prevent the introduction of yellow fever into this country. The Bill also provides for the establishment of a quarantine station at the Dry Tortugas Islands and at such other points at or near the sea coast—not to exceed four in the aggregate—as may be deemed necessary. This legislation is the outcome of the failure of local health authorities to protect New Orleans last year from an epidemic of yellow fever.

The Abatement of the Smoke Nuisance.

Smoke has become an intolerable nuisance in many cities and large towns where there is any manufacturing industry. The abatement of this nuisance has been prevented by the absence of adequate laws in many instances and the failure of health authorities to enforce laws and ordinances in others. To meet these conditions a "Smoke Abatement League" has been organised in Hamilton County, Ohio, the purpose of which will be to secure the passage of laws, State and municipal, which will protect communities from the damage and discomfort of smoke. The league will take all necessary measures to abate the nuisance and, when compelled to resort to the courts, will undertake the prosecution of offenders. The organisation also proposes to make scientific investigations into the effects of smoke upon the public health.

Department of Health of the Isthmian Canal Commission.

Chief Sanitary Officer Gorgas states in his monthly report for February that no case of yellow fever has occurred for three months. The city of Panama has been free from yellow fever since Nov. 11th. The Canal zone is free from other quarantinable diseases, though yellow fever, plague, and small-pox are prevalent in the South American Pacific ports. Yellow fever is prevalent in the ports of the Caribbean coast, both north and south, but such is the vigilance of the Commission's health department that the pestilence can get no foothold in the communities over which it exercises jurisdiction. Of over 23,000 canal employees there is an average of 472 patients daily in hospital which gives a constant sick-rate of 20 per 1000. This is a surprisingly the character of the colour contrasts and the astigmatic conditions of the observer was so constantly obtained that the following broad generalisations were rendered permissible. 1. Coetaneous contrast colour complements are more certain, more pronounced, and more complex in positive relation with the kind, the degree, and the meridionality of the existent astigmia. 2. Coetaneous complementary colour contrasts in their primary and least complex types appear as faint red-green bands which begin as a series of marginal stripes along the watery borders, the red being the first evolutionised tint; these being the most prominent colour factors in the simpler and the more regular forms of astigmia. 3. Coetaneous colour contrast complements in their more complicated varieties superadd determinate degrees of simultaneous blue-yellow complements to the red-green series, these associated subjectivisms being fixed in form and positive in position in direct relationship with the grossness of the amount of the resident astigmia and its departure from prevalent angle. 4. Complementary colour contrasts of coetaneous types in their most exaggerated forms are always found in strict association with the highest degrees and the most bizarre types of regular and irregular astigmia.

Trachoma.

Dr. MELLO BARRETO (São Paulo) read a paper founded upon his experience in dealing with this condition, which is propagated very commonly in his neighbourhood among Italian colonists. Brazilian farm hands, he said, even in contact with the Italian colonists, rarely contracted the disease. Chibret's law, which establishes that at altitudes greater than 200 metres trachoma does not obtain, is not verified in the State of São Paulo, Brazil, where the coffee zone is always above 500 metres, so that the Italians' predisposition for the disease must lie in their race. The treatment of trachoma, he suggested, was mainly prophylactic, all close relations with sufferers are risky, and the patient should take great care not to spread the disorder by the objects of his personal use—for instance, towels and handkerchiefs. The curative treatment of trachoma among the Brazilian practitioners, he said, consisted of submucous injections under the eyelids of a 1 per cent. solution of pyoktanin. Ten drops of the pyoktanin are injected in the submucous tissue of the eyelids, with the result that at the end of an hour a great venous hyperæmia supervenes. The injection promotes a flooding of the trachomatous tissue and so an œdema is produced which smoothes off the rugous and irregular surface of the tissue. The submucous injections of the eyelid with an aqueous solution of 1 per cent. of pyoktanin should be repeated as often as the œdema produced by the treatment disappears, leaving still granulations behind. Dr. Barreto warned his audience against more drastic measures, pointing out that the scars resulting from canteries or from the crushing of the granulations are more dangerous than the granulations themselves to the ocular globe.

OBSTETRICS AND GYNÆCOLOGY.

Professor KARL HENNIG (Leipsic) discussed

The Nomenclature of Obstetrics.

He pointed out the necessity of a terminology which could be universally understood by obstetricians in all countries. Latin was employed in botany and zoology and a similar simplification of the scientific terms employed in obstetrics was called for. He presented a very exhaustive table of obstetrical terms, giving the equivalent expressions in six languages—viz., Latin, Greek, French, German, English, and Italian.

Professor CANDIDO DE PINHO (Oporto) read a paper on

The Auto-intoxications of Pregnancy.

No one disputed the saying that "every pregnant woman is in a condition of auto-intoxication." Certain of the toxic agencies had been long recognised. For example, it had long been known that the total excretion of urea and nitrogen in pregnancy was below the normal, and further, of two pregnant women, one of whom felt well and the other ill, the latter had the smaller nitrogenous excretion. Formerly many theories regarding the cause of this phenomenon had been advanced, all starting, however, with the hypothesis of renal inadequacy. Later, experimental physiology had proved the profound action of the liver on the blood and on endogenous and exogenous toxins, and this study had originated theories of hepatic insufficiency. As facts accumulated an extensive knowledge was obtained of internal secretory glands, the defences of the organism, the metabolism of nutrition, the properties of the fluids, and the action of the various cells and tissues, and at the present time the auto-intoxication of the pregnant state was interpreted as being the result of an *antitoxic insufficiency.* The toxins in the body of the pregnant woman were endogenous and exogenous, corresponding to maternal and fœtal toxins. 1. The *maternal* poisons originated from (*a*) delayed assimilation, and (*b*) the digestive tract. With regard to the first factor, the total nitrogenous excretion was diminished by 16·9 per cent. and the urea by 18 per cent.—figures pointing to mal-assimilation of albuminoid material. Those organs which influenced cellular metabolism (e.g., liver, thyroid, and ovary) were affected, and led to alterations in the pigments, the chemical reactions of the fluids, the leucocytes of the blood, and the nervous system, in a manner not yet fully determined by experimental pathology. Some women felt unusually well during pregnancy; such cases were explicable by the fact that a small quantity of toxin had a stimulating effect. With regard to the second factor, the researches of Professor Charrin had proved the importance of the intestinal toxins in pregnancy. Many vascular and hæmic changes formerly supposed to be due to cardiac and cardio-vascular disease were now recognised consequences of toxæmia of intestinal origin. These changes were briefly described and the history of several cases was narrated. 2. Toxins also originated from the *fœtus* and the *placenta.* Bordet and Metchnikoff in France, and Ehrlich and Morgenroth in Germany, had opened up an unexpectedly large field in cytology and since 1898 there had been a flood of literature on cytotoxins. A brief summary was then given of the action and nature of cytotoxins and anticytotoxins. He (the speaker) was of opinion that in the physiology of the placenta would be found the explanation of much of the problem and quoted in support of this view the biological researches of Letulle, Veit, and Schölten. The theory was well summarised by Bandler:[1] The placenta gave off into the maternal circulation elements derived from its ectoblast, trophoblast, and syncytial cells; the placenta acted upon the maternal blood and was in turn influenced. The maternal blood contained some element the function of which was to resist, modify, or counteract the placental secretion. The ovary furnished this element. Eclampsia was best explained by a mal-secretion of the placental gland or preferably a relative mal-secretion due to insufficient or abnormal modification of the placental secretion by the elements furnished by the ovaries. The auto-intoxication of pregnancy, therefore, was due to (1) increased toxins and (2) decline of the defensive power of the body, either from overwork or congenital weakness; in other words, the patient had an *antitoxic insufficiency.*

M. GUSTAVE RICHELOT (Paris) read a paper on

The Treatment of Uterine Retro-displacements.

He started by stating that, for his purpose, no distinction need be drawn between retroversion and flexion. Retro-displacements were either (1) symptomatic or (2) primary. In (1) the uterus was bound down by adhesions and parametritis might be present. Obviously the retroversion was, then, due to inflammation of the peritoneum or uterine appendages dragging the womb out of position. In such cases one of two methods of treatment might be adopted: (*a*) total extirpation of the uterus or (*b*) a conservative operation might be performed, the uterus being left while its appendages were removed. The cause of the pain and other symptoms having been removed it did not then matter whether the uterus remained in position or not. (2) The term primary retroversion did not necessarily imply the absence of any cause whatever but it did imply that the uterus was mobile, that no adhesions were present, and that the tubes and ligaments were healthy. It was found in young girls, in nulliparæ, and also in child-bearing women. M. Richelot then discussed the causes to which this condition was usually attributed—puerperal metritis, metritis, "the weight of the organ," relaxation of the tissues, mechanical causes such as a full bladder, constipation, and prolonged decubitus—and emphasised his disbelief in the prevalent theory that the retroversion was due to an infection. The most rational theory put forward was the slackening of the ligaments consequent on pregnancy; but he had often seen the condition present in young girls. He had found retroversion

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[1] American Journal of Obstetrics, April, 1903.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held at Lisbon, April 19th—April 26th, 1906.

THE SECTIONS.

MEDICINE.

Chorea considered as Cerebral Rheumatism.

Sir DYCE DUCKWORTH (London) read a communication treating of the above subject. He said that chorea (of Sydenham) was now regarded as a disease caused by an infective agency and not merely as the result of shock or fright occurring in persons of neurotic and unstable temperament. He pointed out that the peccant matter of rheumatism which is now looked upon as of microbic origin—diplococcus or streptococcus—is assuredly the most frequent if not the sole cause of the infection. No other microbic element than this diplococcus had been discovered in those cases of chorea which were believed to be unconnected with rheumatism and independent of rheumatic influence. The infecting agent appeared to be somewhat similar to, but distinct from, other varieties of streptococcus which mark the ordinary forms of pyæmia. Consequently chorea should be considered as a form of rheumatism involving the membranes and cortical structure of the brain and was, in fact, cerebral rheumatism. In the pathogeny of chorea there was a neurotic element which predisposed subjects to the manifestation of symptoms, among others, of rheumatism. Therefore chorea must be regarded as a neuro-humoral disorder.

Myositis Ossificans.

Dr. EDWARD WOLFENDEN COLLINS (Sydenham) read a paper in which he dealt with a solitary instance of the very rare, progressive, and incurable dyscrasia known as "myositis ossificans." He stated that this was the only case of this malady which had come under his personal observation during a practice extending over a considerable period. Less than a hundred in number of similar cases had been recorded by British, continental, and trans-Atlantic observers. The subject of this uncommon pathological condition described by Dr. Collins was a little girl, now eight years of age. About a year after her birth bony kernels resembling enlarged glands, for which they were at first mistaken, were noticed in the neck. During the past three years the rigid condition of the neck had gradually increased with extension of the bony formations to the shoulders, pectoral muscles, and back; and in the course of the past three months bony deposits had also become manifest at the back of each heel in proximity to the insertion of the tendo Achillis. The outward movements of the arm had become seriously crippled owing to the extensive deposits in the pectoral muscles, while the rigidity of the muscles of the neck and back rendered bending movements impossible. Her forearms and lower extremities had escaped so far. Her only complaint was at times of pain in the back. She had not suffered in general health and none of her relatives, near or distant, had been afflicted in a like manner. At the time of her birth the shortening of the big toes with deviation towards the middle line of the foot attracted attention. This remarkable congenital deformity, said Dr. Collins, wherein the big toe presents only one phalanx and that deviating outwards—a combination of micro-dactyle with hallux valgus—had been noticed in so many cases of myositis ossificans that it could hardly be regarded merely as a coincidence, and it might be added that a similar congenital deformity of the thumbs had been occasionally observed in cases of this disease. In summing up the information at our disposal concerning this strange form of degeneration it might be stated briefly that it commenced, as a rule, in childhood, owing to some constitutional proclivity to bony deposit. It was not of hereditary origin, as no instance was known of its occurrence in parent as well as in offspring or of its having affected more than one member of a family. Its pathological essence was the deposition of bony masses in the cellular tissue which binds the muscular fibres together, causing absorption of these fibres and taking their place. That the bony deposits consisted of true bone tissue had been clearly demonstrated whenever, after excision, their chemical and microscopical composition had been determined. Nothing was known of the first causation beyond the fact that in many instances injury had been either the apparent starting point or had aggravated the malady and that not infrequently it had followed exposure to cold or a chill, in this respect, as well as in the pains which accompanied it, showing an affinity with muscular rheumatism, and more especially in respect of its bony outgrowths with rheumatoid arthritis. Its course was essentially chronic and progressive, though not without periods of remission. It usually began in the muscles of the neck and back, whence it spread gradually to those of the shoulders, chest, and limbs to such a degree that the chest finally became an immoveable cuirass and voluntary movements of the limbs became impossible. The abdominal muscles, however, with the diaphragm and other vital muscles, enjoyed a singular immunity. Visceral and joint lesions were conspicuous by their absence and the general health remained unimpaired. Death was generally brought about by pulmonary complications, aggravated, if not induced, by the crippled movements of the chest walls, or by the sloughing of the tissues over prominent bony outgrowths with sequelæ of sepsis. Treatment had been found unavailing even to arrest the progress of the disease.

Successful Treatment of the Fulminating Form of Appendicitis simulating the Onset of a Severe Attack of Influenza or of Acute Pneumonia by Iron Acetate and Belladonna.

Mr. HERBERT J. ROBSON (Leeds) read a communication on the above subject, in which he pointed out that treatment of pneumonia by the regular administration of iron acetate and strychnine (in those cases in which the latter drug was called for) was indicated in cases of severe broncho-pneumonia occurring in infants or in children and in catarrhal and lobar pneumonia occurring in debilitated subjects. Two properly trained nurses should be available for night and day respectively, as the regular administration of strychnine by day and by night kept up the heart's action and the danger of heart failure at the crisis was very much lessened. Such treatment was called for, too, in that infectious, creeping, and spreading form of pneumonia following or accompanying influenza. By using these therapeutic measures the crisis was hastened and favourably modified, the virulence of the disease was lessened, and the complication of empyema seldom occurred. Even when bronchitis was present there seldom seemed any need to prescribe depressing drugs like ipecacuanha, as the iron acetate acted as a good expectorant. Mr. Robson stated that according to his view of the situation, referring particularly to the treatment of the fulminating form of appendicitis, the patient or a friend of the patient should first be told how matters stood so that the option of immediate operation might be given, as well as the option of consultation with an operating surgeon. An opiate should be given to relieve abdominal pain, extract of belladonna administered every three hours until physiological symptoms of belladonna were noticed, when its administration should be less frequent, and a mixture of solution of perchloride of iron 15 minims, solution of acetate of ammonia two drachms, with chloroform water in sufficient quantity should be given every three hours in water. Hot applications might be used to relieve headache and backache, derivatives of the coal-tar series being carefully avoided; warmth should be applied to the abdomen, while a rectal soap enema might be given to relieve constipation when present, purgatives, of course, being avoided. The patient should be put on a light nutritious diet and strict rest in a recumbent position should be enjoined and the temperature of the bedroom kept at 60° F. by night and by day. The administration of belladonna should be regarded as an important adjunct in the treatment, not only on account of its sedative action upon the intestines but also because of its anti-suppurative action, as pointed out by Christopher Heath, Ringer, and others.

OPHTHALMOLOGY.

Colour Contrasts and Astigmatism.

Dr. C. A. OLLIVER (Philadelphia) read a paper on this subject founded upon several hundred experiments made with the aid of, and at the suggestion of, Dr. S. Weir Mitchell. The subjects were intelligent ametropes of both known and unknown kinds and degrees of astigmatism. During the experimentation a distinct relationship between forget that the outpost station at the best was only a halting-place for the wounded on the way to the ambulance and that he had only to aim at preparing for them as easy and comfortable a journey as possible. The sick and wounded must also be sent away as soon as possible; only the dying should be retained at the outpost station. He summed up the duties of the medical officer in charge: (1) to send back to the ranks after suitable treatment men whose lesions were insignificant and who could continue to fight; (2) to apply the recognised dressing to simple wounds caused by rifle bullets of small calibre; (3) to arrest or to diminish profuse hæmorrhage by compression of the main artery at a distance from the wound when possible or by compression of the wound itself with an aseptic pad of wool soaked in very hot water; (4) to put up broken limbs in improvised splints; (5) to perform tracheotomy where the neck was wounded and imminent asphyxia threatened; (6) to give morphine hypodermically where pain was intense and ether injections or camphor oil to the wounded who were in want of energetic stimulation; (7) to have the water boiled, whether for cleansing the hands or for other purposes; (8) to protect from infection by means of a coating of collodion those parts of the skin where it was necessary to make an injection or an incision and also all wounds requiring a dressing; and (9) to send the wounded to the ambulance—in the first place, those who had hæmorrhage arrested by compression; secondly, those who urgently required any operation; and thirdly, those severely wounded whose wounds could not be properly attended to at the outpost station.

M. MANUEL GIÃO (Lisbon) read a paper on the

Organisation of the Military Medical Service at the Front.

He quoted approvingly the saying that "the success of the medical service depended upon its organisation." He was glad that the subject had been considered worthy of discussion at an International Congress; this could only result in improvement of the lot of the wounded at the front in war. In most armies the military medical service at the front consisted of three divisions, which might be broadly described as (1) the regimental service; (2) the ambulances; and (3) the hospitals. The first two divisions had always to be in readiness to follow the movements of the troops and to that end to get rid as soon as possible of their sick and wounded. Thus the outpost stations passed on patients to the ambulances and these in turn passed them on to the hospitals on the same or the following day. This method of organisation was open to criticism; it was incapable of being adapted to a sudden call on the battlefield. Gavoy had proposed the creation of a hospital providing vehicles for the transport of the wounded, thus relieving the ambulance and permitting it to come to the aid of the outpost stations. M. Gião had recently instituted a new organisation for the Portuguese army at the front which he briefly described: (1) preservation of the regimental service; (2) substitution of the ambulances and hospitals by medical formations of a uniform type; (3) collection of material for the transport of the sick and wounded in an independent division; and (4) creation of a new unit supplied with hospital material sufficient for the needs of these formations when they became stationary. These new formations were called *hôpitaux de sang*; the division for transport was called the transport column and insured the transport of the wounded on the battlefield; the new units or hospital columns carried all the stores necessary for the *hôpitaux de sang* when they required to become stationary for the treatment of severely wounded men. Each hospital and each column formed an independent unit from the administrative point of view. The hospitals did not relieve each other, they exchanged places in the marching columns. They were relieved by the service of the second line. The hospital was controlled by a medical officer, the transport column by a transport officer, and the hospital column by an administrative officer. The three units could be arranged according to the necessities of the service. The command of the party always reverted to the medical officer. To be turned to the best account the hospitals and the accessory columns ought to be placed under the immediate orders of the chief medical officer of the unit. M. Gião gave details as to the attending staff, the stores and the material required, and the respective duties of the regimental service, the transport column, the *hôpitaux de sang*, and the hospital column. He considered that each division should have six *hôpitaux de sang*, two transport columns, and four hospital columns.

FORENSIC MEDICINE.

The Procuring of Abortion.

Dr. STANLEY B. ATKINSON (London) read a paper dealing with the circumstances which justify an operation with a view to procuring abortion. After laying down as a necessary reason for such interference the strong probability that continued pregnancy would prove fatal to the prospective mother he proceeded to cite instances illustrating the principle thus enunciated, emphasising the duty of establishing beyond question the existence of the physical conditions relied upon.

Professor VAN DER VEER (Albany, U.S.A.) in a subsequent paper attributed the criminal procuration of abortion among the very poor to temptation arising out of their extreme poverty; among the middle classes to a desire to avoid the expense of a family, lest it should affect their social position; and in the wealthy classes to the desire to avoid the trouble of rearing children, coupled with the fact that money enabled these to obtain what they desired with a comparative degree of safety. He urged that it was the duty of a medical man called in as a consultant, if convinced that criminal abortion had been procured, to inform the proper authorities at once of the fact that it had taken place and insisted that in cases where there was evidence that a medical man, or a woman having medical skill to aid her, had procured abortion every step should be taken to bring about the punishment of the guilty person. He mentioned the increased safety attending the crime of procuring abortion in consequence of modern precautions to avoid sepsis but nevertheless he was of opinion that information disseminated as to the inevitable physical danger would do much to prevent women from running the risks involved, and also that duly imparted knowledge of the enormity of the crime might also serve as a deterrent.

Railway Surgery in America.

Dr. GEORGE CHAFFEE (Brooklyn) and Dr. CLARK BELL, LL.D. (New York), described the development in the United States of a class of surgeons devoting themselves to the study and treatment of accident cases occurring upon the extensive and growing railway systems of the country and gave particulars of the organisation of the railway surgeon's practice and of the work performed.

The Scientific Treatment of Social Offenders.

Dr. J. MOUNT FLEYER (New York) compared and contrasted the effects of "nature" and of "nurture" in the production and reformation of criminals. He was of opinion that where hereditary conditions pointed unmistakeably to the procreation of an offspring predestined to inherit criminal propensities "nature" would not be overcome by "nurture" and the criminal element would remain paramount in the character of the subject in spite of the efforts made to direct and to reform it. He discussed in detail the duty of the State in the restraint, education, and reformation of the degenerate.

Insanity in Prisons.

An interesting paper was read by Dr. PACTET, chief medical officer of the asylum of Villejuif, having for its subject the frequent occurrence of cases of mental disease in prisons without recognition and without proper treatment being accorded to those affected. The existence of insane prisoners subjected to the discipline imposed upon ordinary prisoners Dr. Pactet declared to be established by the unanimous testimony of prison governors, of medical alienists who had had the opportunity of forming opinions on the subject, and particularly by an inquiry which he himself had conducted, and in the course of which he had consulted experts in various countries. Some of these prisoners were insane when sentenced, others had since become affected. The exact proportion which they bore to the sane inmates of the same institutions could not be established owing to the lack of scientifically compiled data, but available statistics from abroad seemed to point to 5 or 6 per cent. at least as a probable proportion, while according to the opinion of several prison governors in France about 15 per cent. of their charges might advisedly be submitted to examination as to their mental condition. In the existing state of affairs, however, the presence of insanity remained undetected even after a long period of imprisonment had been undergone, and in an instance referred to a man condemed to five years' confinement for homicide completed his sentence as an ordinary prisoner when he should have been in a lunatic asylum.

associated with moveable kidney, enteroptosis, and hernia; it occurred, in his opinion, in those with a neuro-arthritic diathesis, whose chief symptom was a tendency to a loosening or "want of tone" of all their fibrous tissues. Research conducted on this line would, he felt certain, explain the uterine condition. The clinical symptoms were then fully narrated in order of evolution and the chaos of prevalent teaching on the subject was reduced to the simple element of congestion. M. Richelot then passed to the treatment. Five years previously he had recommended an operation (first conceived by Doléris) which had at the time provoked adverse criticism. It consisted in making a short median laparotomy, seizing the round ligaments at a short distance from the uterine cornua, where they were firm and thick, bringing them up to the inferior angle of the wound, and fixing them firmly with two or three catgut stitches. The crux lay in the method of fixation; the ligaments must be inserted into the thickness of the muscular aponeurotic layer; if they were sutured only to the peritoneum the fixation would be useless. Doléris had added a modification to this but the ease and simplicity of the above recommended it. Alexander's operation was criticised and the operations in vogue at former times were passed in review. Between October, 1899, and September, 1905, M. Richelot had performed the operation recommended above on no fewer than 80 patients. In 18 of these 80 slight traces of peritoneal irritation had been detected at the time of operation; in 62 the peritoneum had been normal. The uterus in all cases had been mobile; the cases had belonged to the group of primary retroversions. Of these 80 cases only *one* had *not* been relieved, 25 had been lost sight of after apparent cure, 15 had been operated upon so recently that it was unfair to count them as cured, and 39 remained quite cured. By "cured" he meant absence of pain and fatigue after exercise, a resumption of social and other duties fulfilled by healthy women. Three of the patients had become mothers and had not had any return of uterine *symptoms*. M. Richelot then narrated in detail four cases which served as examples of the way in which the operation transformed a patient from a weary, suffering invalid to an active and a useful member of her household.

Dr. ALFREDO DA COSTA (Lisbon) read a paper on

The Indications for, and the Technique of, Cæsarean Section

The various operative methods employed in cases with contracted pelves were first reviewed. 1. Symphysiotomy was easily performed, but very dangerous complications were liable to accompany or to follow it, such as involvement of the urethra, rupture of the vagina and vulva, and persistent pain at the pubes, and the sacro iliac joints. 2. Ischio-pubiotomy was originated and once successfully performed by Farabeuf; this operation, however, had been abandoned by its inventor. 3. Hebotomy, or pubiotomy, Gigli's operation, had in Dr. da Costa's opinion a future before it on account of the simplicity of its performance. It was, in fact, a perfected symphysiotomy, inasmuch as it had none of the dangerous drawbacks of symphysiotomy. 4. Embryotomy was not performed nowadays. Cæsarean section was preferable to all these methods, excepting when the membranes had been ruptured for some time or the uterus was the site of any infection which might pass into the general circulation The *most appropriate time* for the performance of the operation was at the commencement of labour; he disapproved of its performance before labour started, because every prematurely born infant started life at a disadvantage. In the choice of the uterine incision the surgeon must be guided by the special circumstances of each case. The longitudinal anterior median incision *was usually best* Before the uterus was opened, and *certainly before the extraction of* the child, an assistant should place two fingers in the vagina ready to push up the presenting part when requested by the operator. All forms of uterine suture were good if, *in addition* to strength, they had perfect adaptation of the incised edges and were impermeable to the passage of fluid from the uterus. Extra-peritoneal Cæsarean operations had not much clinical value. Dr. da Costa then described at length an original and ingenious method of suturing the abdominal wall; the scar was not only firmer but the skin cicatrix was narrower and less disfiguring than that produced by the ordinary method. The peritoneum, the muscular aponeurosis, and the skin were separately sewn up with silk, the two ends of each thread being tightly wound round a button specially devised for the purpose and fixed with collodion. When the wound was healed the buttons and the *thread were easily removed*, leaving a narrow linear scar in the middle line.

Dr. TH. TUFFIER (Paris) and Dr. DE ROUVILLE (Montpellier) communicated a paper on

The Treatment of Uterine Fibroids.

The general indications regarding operative interference had not altered since 1899 and might be summed up thus (1) rapidly growing fibroids should be removed; (2) stationary fibroids should be left alone; and (3) fibroids compressing the bladder, intestines, or ureters, or causing *profuse* hæmorrhage, should be got rid of. Albuminuria and cachexia were usually mentioned as contra indicating an operation. In the presence of albuminuria the urine was carefully examined as to the power of excretion of methylene blue and salts by the kidney, and when the results proved satisfactory operation was recommended. Anæmia and mild septicæmia were indications for operation. Medical treatment by rest, hot injections, and electricity was discuss The best results were obtained by water containi chloride of sodium; the waters of Balaruc, Salies, a Brucoutz appeared to diminish the congestion, and he the volume of the tumours, and were to be recommended cases where operation was inadvisable. Palliative surge consisted of curetting, ligature of the uterine arteries, a removal of the ovaries. The last named was the most effic cious when practicable. Curative surgery consisted of hyst ectomy and enucleation and when possible enucleation w preferable. The indications for vaginal and transvagin enucleation were reviewed and the indications for hyst ectomy considered at length. The mortality of abdomin enucleation was 2 75 per cent. and relapses were rare. Wh considering the methods of procedure for hysterectomy note of warning was sounded as to the danger of the Tre delenburg position for stout patients and those whose c culation was feeble. Unless the cervix was involved it w preferable to leave it *in situ;* there were few indications f total hysterectomy. The treatment of fibroids complicat by pregnancy was fully discussed.

MILITARY MEDICINE.

Secondary Disinfection of Infected Gunshot Wounds.

Colonel NICHOLAS SENN, M.D. (Chicago), communicated paper on the above subject. Dr. Senn is an authorit of some note with regard to gunshot wounds, he havin had a considerable experience of such injuries durin the Spanish-American war. Dr. Senn's worldwide rep tation as a surgeon also added weight to his testimon He pointed out that as the fate of the wounded depende largely on the thoroughness with which first aid wa rendered, the military surgeons must make ample pr vision in time of peace in order to secure efficiency o this service in time of war. Attention was drawn t the fact that first-aid dressing should combine sim plicity with safety against infection after injury. Th point was dwelt upon that first aid must have i view the treatment of shock, hæmorrhage, dressing o wound, and immobilisation of the injured part. Dr. Sen laid down as an invariable rule in the treatment of gunsho wounds that the probing of such wounds must be prohibited Furthermore, he insisted that in no circumstances shoul attempts be made to extract bullets until this could b done in a well-equipped hospital under the strictest asepti precautions, and then only in cases where an operation o this nature was clearly indicated by the fact that the bulle could be felt through the intact skin or its exact locatio had been determined by the employment of the x rays. The conclusions arrived at were as follows: duties of the surgeon at the first dressing, inspection of first-aid dressings and more efficient immobilisation of the injured part. Immediate duties · emergency operation, as definitive arrest of hæmorrhage, amputations, and laparotomy.

Lieutenant-Colonel JOSE BARBOSA LEÃO (Lisbon) read a paper on

Surgery in War at the First aid Stations at the Front.

He reviewed the conditions under which these stations had to work and discussed the methods of dealing with the wounded on the field of establish that the *rusting of iron only takes place in the presence* of carbonic acid. Professor Wyndham Dunstan showed some interesting minerals from Ceylon and also some from Canada, while the exhibit included some specimens illustrating an investigation on certain cyanogenetic plants. Sir Oliver Lodge and Dr. Alexander Muirhead exhibited a portable set of wireless telegraphy apparatus for military field purposes available for communication across country for distances up to 50 miles or 150 miles over sea. Professor John Milne exhibited seismograms of three recent earthquakes, including that which occurred at San Francisco. The Royal Observatory, Edinburgh, exhibited similar records. Mr. E. G. Rivers explained the construction and working of a new electric heater, in which a large heating surface kept at a moderate temperature is employed, silicated carbon with a terra-cotta base forming an "element." The apparatus, it is said, will warm a room 12 feet by 12 and 10 feet high at a cost of a little over 1*d*. an hour with the current at 1½*d* per unit.

Demonstrations in the meeting room by means of the electric lantern were given by Mr. G. W. Lamplugh, who exhibited some very fine photographs of the Batoka Gorge of the Zambesi river, while Professor Sylvanus P. Thompson gave an admirably illustrated account of the electric production of nitrates from the atmosphere. The method consists in converting the nitrogen of the air into nitrous vapours which takes place by passing air through "a roaring disc of flames" or electric discharges about six feet in diameter. The nitrous fumes are absorbed in water and in quicklime. The product is used for agriculture and the power in the particular instance cited is furnished by waterfalls in Norway. One kilowatt, Professor Thompson states, may be taken as able to produce 500 kilogrammes of nitrates at least per annum.

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the convocation held on April 28th the following degrees and diplomas were conferred:—

Doctor in Medicine.—Charles Harold Clarke, M.B., B.S. *Durh.*; Ida Emilie Fox, M.B., B.S. Durh.; Harold Linton Heslop, M.B., B.S. Durh.; Herbert Lovis Noel Cox, M.B. Durh.; Thomas Young Simpson, M.B., B.S. Durh., and James Bowden Waters, M.B., B.S. Durh.

Doctor in Medicine for Practitioners of 15 years' standing.—Bennet Harvey Andrew, M.R.C.S., L.R.C.P., L.S.A.; Henry Buxton, F.R.C.S. Edin., L.R.C.P., L.F.P.S.G.; Ernest Carrick Freeman, M.R.C.S., L.R.C.P., D.P.H., John Frederick Nall, F.R.C.S. Eng.; Richard Reginald Sleman, M.A., L.S.A.; James Pixton Walker, M.R.C.S., L.R.C.P.; and Alfred Whalley Waller, M.R.C.S., L.R.C.P.

Bachelor in Medicine (M.B.) and Bachelor in Surgery (B.S.).—William Frederick Cheese, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; James Henry Cooke, B.Litt., Hamilton Drummond, Horsley Drummond, and Wilfrid Fairclough, College of Medicine, Newcastle-upon-Tyne; Archibald Finlay, London Hospital, John Galloway, L.R.C.P. & S. Edin., L.F.P.S.G., College of Medicine, Newcastle-upon-Tyne; Sampson George Victor Harris, M.R.C.S., L.R.C.P., D.P.H., Charing Cross Hospital; Arthur Beresford Jones, John Cuthbert Pearce, A.Sc., Robert Blackett Reed, William Seymour, Frederick James Strachan, and Edward Tate, College of Medicine, Newcastle-upon-Tyne; Arthur John Turner, London Hospital; and Robert Joseph Weldner and Robert Joseph Willan, College of Medicine, Newcastle-upon-Tyne.

Bachelor in Medicine (M.B.).—Frank Tomlinson Simpson, College of Medicine, Newcastle upon-Tyne.

Bachelor in Surgery (B.S.)—Sidney Herbert Hawley, M.D., B.Sc., D.P.H., Birmingham University.

Bachelor in Hygiene (B.Hy.).—John Wilson Howard Morrison, M.B., B.S. Durh.; Henry Renny, M.D., B.S., D.P.H. Durh., and Herbert James Slade, M.B., B.S. *Durh.*, M.R.C.S., L.R.C.P.

Diploma in Public Health (D.P.H.).—James Alexander Mitchell, M.B., Ch.B. Glasg., John Wilson Howard Morrison, M.B., B.S. Durh.; and Herbert James Slade, M.B., B.S. Durh., M.R.C.S., L.R.C.P.

UNIVERSITY OF OXFORD.—The degree of D.M. has been conferred on Cyril Ogle, M.A., M.B., B.Ch., Trinity College, F.R.C.P.—The electors will proceed to the election of a Sibthorpian Professor of Rural Economy on Saturday, June 9th. Candidates are requested to send in their applications on or before May 19th to the registrar of the University, from whom all particulars may be obtained. Among the conditions is the following: "The Sibthorpian Professor of Rural Economy shall lecture and give instruction on the scientific principles of Agriculture and Forestry, including the Pathology of Plants.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—A meeting of the Fellows will be held on Saturday, June 9th, at 1 o'clock, to receive the annual report of the council. A meeting will also be held on Monday the 11th, at 1 o'clock, pursuant to the provisions of the charters, to elect a president, vice president, council, and honorary secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office should signify their wish by letter to the Registrar at the College on or before Wednesday, May 30th.—At a meeting of the President, Vice-President, and Council held on May 1st the following examiners were elected. Court "A," for Conjoint Licence, Diploma in Public Health, and preliminary. Anatomy: Mr. Alexander Fraser and Dr. Bertram C. A. Windle. Surgery: Mr. Alexander Blaney, Mr. F. Conway-Dwyer, Mr. John Dundon, and Mr. Richard Lane-Joynt. Pathology and Bacteriology: Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Biology: Mr. John J. Burgess. Ophthalmology: Mr. Arthur H. Benson and Mr. Herbert C. Mooney. Sanitary Law and Vital Statistics: Mr. Edward Francis Stephenson. Languages: Mr. L. J. Woodrooffe. Mathematics, Physics, Dictation, and English Essay: Mr. J. W. Tristram. Court "B," Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery. Anatomy: Mr. Patrick Joseph Fagan and Mr. Alexander Fraser. Surgery: Mr. Alexander Blaney, Mr. F. Conway-Dwyer, Mr. Thomas E. Gordon, and Mr. Richard Lane Joynt. Pathology and Bacteriology: Mr. Leveson Gower Gunn and Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Chemistry and Physics: Mr. Edwin Lapper and Mr. Robert J. Montgomery. Dental Surgery and Pathology: Mr. George M. P. Murray and Mr. William G. Story. Mechanical Dentistry: Mr. Kevin E. O'Duffy and Mr. Daniel L. Rogers.

THE ANNUAL DINNER OF THE ROYAL SANITARY INSTITUTE.—The annual dinner of the Royal Sanitary Institute was held at the Langham Hotel, Portland-place, London, W., on May 9th, the Duke of Northumberland, K.G., the President of the institute, being in the chair. Among those present were Colonel J. Lane Notter, R.A.M.C. (*retired*) (the chairman of the council), Sir Francis Sharp Powell, Bart., M.P., and Sir Alexander Binnie (vice-presidents of the Institute), Sir Lauder Brunton, F.R.S., Sir Shirley F. Murphy, Surgeon-General A. H. Keogh (Director-General of the Army Medical Service), Sir R. Melvill Beachcroft (chairman of the Metropolitan Water Board), the Rev. Canon Barker, and Mr. Evan Spicer, J.P. (the chairman of the London County Council). After the usual loyal toasts had been given from the chair by the President, Sir Lauder Brunton proposed "The Navy, Army, and Auxiliary Forces," and referred to the work of Edward Parkes and Colonel Lane Notter. The toast was responded to by Surgeon-General Keogh, who insisted that the first duty of the medical service of the Army was the prevention of disease. He regarded the fact that 40,000 cases of enteric fever occurred in the late South African war as disgraceful and further dealt with the question of the water-supply to the army in war. It was impracticable to boil all the water used by the troops but he regarded the water problem as on the eve of solution by the application of the Slack and Brownlow filter to the service watercart. The toast of "The Houses of Parliament" was given in a witty speech by Sir Melvill Beachcroft and responded to by Sir Francis Sharp Powell, who paid a tribute to the earnest work of the Labour Members in the new Parliament. The Duke of Northumberland in proposing the toast of "The Royal Sanitary Institute" spoke of the cold douche which had been applied to the question of vaccination and of his personal disappointment at the attitude of the authorities towards revaccination which he regarded as a necessity. He also referred to the growing interest in tropical medicine and spoke in eulogistic terms of the work of the schools of tropical medicine in London and Liverpool. The toast was responded to by Colonel Lane Notter. "The Health of the Visitors" was proposed by Sir Alexander Binnie, President of the Institute of Civil Engineers. It was responded to by Mr. Evan Spicer, who referred in grateful terms to the assistance afforded by the institute to the London County Council in sanitary matters. The proceeding

This, in fact, was what would naturally occur so long as the insanity of the convict was not such as would prevent altogether his compliance with the discipline of the prison. Such a state of affairs violated the principle with which all would now agree, that the proper place for the detention of a person mentally defective was an asylum, and it had been responsible in one case for a dangerous attempt upon the life of a prison warder committed by an insane prisoner upon the very day of his release from gaol. In discussing remedies Dr. Pactet pointed out that if the medical officers of prisons were qualified by training to detect and to deal with mental disease the evil would be considerably diminished, but he was of opinion that in order to reduce it effectively it would be necessary to follow the example set by Belgium and to establish a system of thoroughly qualified medical commissioners specially empowered to remove and to place in suitable asylums prisoners found to require the treatment accorded to the mentally defective. He described an attempt in this direction, consisting in an inquiry due to the initiative of Dr. Henri Colin, his colleague at Villejuif, but in spite of official support, enabling them to examine prisoners whose records led them to suspect insanity, opposition and resistance had arisen which had crippled the efficacy of the work done. The establishment by law of a special service for the mental examination of prisoners was, he urged, a reform in which Belgium had set the example and towards which the favourable opinion of the Congress might materially contribute.

Other Papers.

Addresses relating to, and arising out of, a charge of murder by the inhalation of chloroform in the United States were also read in this section and Dr. THEODORE SCHROEDER (New York) contributed a paper on the question, How Should "Obscene" be Defined in Legal and Medical Literature?

COLONIAL MEDICINE.

Dr. F. W. MOTT (London) read a paper upon

Histological Observations in Sleeping Sickness and other Trypanosome Infections

in which he came to the following conclusions which were supported by experimental evidence:—1. Sleeping sickness was a chronic disease caused by the trypanosoma Gambiense conveyed by a biting fly, the glossina palpalis. 2. Every case of sleeping sickness—30 in all—which he had examined (including the European case recorded by Sir Patrick Manson) had presented the same characteristic meningo-encephalitis which he described in 1898. 3. There was a parallelism between the intensity of the lethargy, the chronicity of the disease, and the characteristic histological changes in the central nervous system. 4. The disease was characterised by a chronic polyadenitis which was followed by a chronic inflammatory change in the lymphatics of the brain and spinal cord. 5. This chronic inflammatory change was manifested by a proliferation and overgrowth of the neuroglia cells, especially of those which were related to the perivascular lymph spaces, also a proliferation and accumulation of lymphocytes in the dense neuroglial meshwork. The lymphocytes might in chronic cases form plasma cells, as they did in the chronic inflamed lymphatic glands. Various other cells were met with in less numbers, some being the result of degenerative changes, others were endothelial with phagocytic activity. 6. Examination of the fresh juice of the glands obtained during life by puncture proved conclusively that the trypanosomes were the cause of their enlargement and of the chronic inflammatory changes met with in them. The microscopic evidence of the existence of trypanosomes in sections of the lymphatic glands was not more satisfactory than the evidence of their existence in the perivascular and meningeal infiltration of the nervous tissues. Chromatin particles, some of which might be micro-nuclei and macro-nuclei, could be seen as well in one as in the other and only very rarely could a trypanosome be found. 7. All cases of sleeping sickness had trypanosomes in the cerebro-spinal fluid at some time or other and it was probable that the entrance of the trypanosomes into this fluid marked the onset of, and slowly caused, the chronic inflammatory changes in the lymphatic system of the central nervous system. The alternative hypothesis was that the trypanosomes by multiplying in the lymphatic glands produced a toxin which was absorbed by the lymphatics proceeding along the vessels and nerves to the cerebro-spinal axis, the route being especially from the cervical glands by the lymphatics of the large vessels and nerves entering the base of the skull. 8. The infrequency with which trypanosomes could be demonstrated in the blood and infiltrations of sections of sleeping sickness tissues might also be accounted for as follows: (*a*) the trypanosoma Gambiense was not found without careful search in blood films even of severe cases; and (*b*) after death in 80 per cent. of the 30 cases which he had examined secondary or terminal microbial infection (generally by the diplococcus or diplostreptococcus) was found, and as the culture experiments of Novy and McNeal show, micro-organisms were inimical to the growth of trypanosomes in the blood and infiltrations. The case in which he found most evidence of trypanosomes in sections of the tissues was a chronic case uncomplicated by microbial infection. There was evidence to show that diplococcal invasion might be followed by inability to find the trypanosomes in blood films—e.g., the European case.

THE ROYAL SOCIETY CONVERSAZIONE.

THE Right Honourable the Lord Rayleigh, O.M., M.A., D.C.L., President of the Royal Society, received a distinguished number of guests on the occasion of the first annual conversazione which was held at Burlington House on May 9th. The exhibits were more than usually numerous and wider in character than has been the case for some years and it did not seem to matter what particular field of science the visitor may have been interested in he was sure to find some illustration touching on his own study.

On the whole the application of the microscope to scientific research was the principal feature of the exhibition. It would not be an exaggeration to say that there were hundreds of microscopes in use. To begin with, Mr. J. E. S. Moore and Mr. C. E. Walker showed microscopic slides exemplifying recent researches in cell division. The preparations showed (1) leucocytes lying in cytoplasm in the early stage of cancer; and (2) first maiotic (heterotype) division in cancer of the breast, the division figures in this form of cancer being supposed to be rare. (These were products of the joint research with Professor Farmer.) There were also specimens showing characteristic permanent forms in chromosomes of first maiotic (heterotype) division, pluri-polar mitoses and amitoses in bone marrow, division figures in germinal area of lymphatic gland, and cells destined to become foot cells in the testis of embryo guinea-pig. Close by were some photomicrographs taken by Léon Foucault in 1844 of blood, milk, and crystals by Daguerré's method. The importance of the microscope in the examination of iron and steel also was admirably illustrated in the photomicrographs placed at the disposal of the Royal Society by the director of the National Physical Laboratory. Professor W. F. Barrett showed an "entoptiscope," an instrument which enables anyone to observe, to delineate, and to measure an obscurity, however minute, within the path of the rays in the eyeball. Next to the microscope the application of photography to astronomy formed a very interesting series of exhibits. The photographs of the solar corona shown by the Rev. A. L. Cortie and the Astronomer Royal were marvellous. They were taken during the total solar eclipse of August 30th, 1905. There were two interesting demonstrations of spectroscopic study. Sir William Crookes showed many photographs illustrating the ultra-violet spectra of metals while Dr. W. Marshall Watts exhibited a binocular spectroscope which gives very beautiful results. Sir James Dewar, F.R.S., exhibited a number of metallic jacketted vacuum vessels filled with liquid air. Next to this exhibit Mr. C. V. Boyes, F.R.S., demonstrated the use of a gas calorimeter which is used for determining the heating value of illuminating gas. Since the introduction of incandescent gas lighting this test has become more important than the measurement of illuminating power. Messrs. Wallach Bros. exhibited the rescue apparatus used in the appalling mine disaster at Courrières. Amongst the exhibits also was a "first-aid" case for use in poisoning by carbonic oxide and other gases. Dr. G. T. Moody exhibited specimens illustrating the indifference of oxygen towards iron in the presence of water and the effect of the admission of carbonic acid. The experiment seems to medical officers. Medical officers have been dismissed from their appointments for causes other than professional neglect or incompetence, in some cases from religious, political, or personal spleen, or from medical officers refusing to comply with orders which were quite outwith their duties as servants of the parish council. Compliance with some of the orders would have brought the medical officer under the ban of the General Medical Council, rendering him liable to be censured or even struck off the Medical Register. A large number of medical officers have thrown up their appointments in disgust owing to the petty annoyances to which they have been subjected, with the result that certain parish councils are in the market for new medical officers every few months, a condition of matters which is very detrimental from a public point of view, so far as the well-being of the inhabitants of those parishes are concerned. For some years this association has been urging the Local Government Board to promote legislation of such a character as would remove the grievances to which the Poor-law medical service are subject, on the following points:—1. An appeal to the Local Government Board in cases of unjust dismissal. 2. The right to order invalid diet to sick paupers without the right of veto on the part of inspectors of poor 3 The granting of power to parish councils to the use of [illegible] funds for building suitable dwelling houses for medical officers in places where such are required. 4. The granting of a suitable annual holiday at the expense of the parish council for medical officers in parishes where the greater part of the income is derived from the official salary. 5 The granting of a uniform fee of 21s for each case of lunacy. 6. The granting of a suitable fee for midwifery, fractures, dislocations, or other special cases The Departmental Committee of the Local Government Board, which held a most exhaustive inquiry into the medical relief of the poor, have recommended that the first three of our claims ought to be granted but have made no recommendation as to the last three claims. We understand a Bill has been drafted and only awaits a suitable opportunity to be brought before Parliament and passed into law. If such a Bill were passed into law we believe the Poor-law medical service would be contented Much against the wish of our association we have been compelled to warn applicants against accepting parish council appointments where the parish council have dismissed or treated their medical officers in an unjust manner. This course of action has been beneficial Almost no dismissals have taken place during the last two or three years We do not mean to claim that in no case has a parish council dismissed its medical officer without just cause or found fault with him for neglect of his professional duties Just causes for dismissal or censure must occur now and then, particularly when you consider that high-class young medical men do not now apply for vacant appointments in the Highlands and islands, the more obnoxious of the parish councils only getting the 'flotsam and jetsam' of the profession to become their servants." The Secretary for Scotland was very sympathetic in his reply and he undertook, whilst not specifically coming under any pledge, to consult with the authorities of his department on the complaints made.

HOUSE OF LORDS.

TUESDAY, MAY 8TH.

Poisons and Pharmacy Bill.

The Standing Committee of the House of Lords on Tuesday, May 8th, considered this Bill, the object of which is to amend the law, as to the sale of poisons and as to the Pharmacy Acts Viscount CROSS presided and the Earl of CREWE was in charge of the Bill on behalf of the Government.

The following new sub-section to Clause 3 was, on the motion of the Earl of CREWE, added to the Bill —

"The provisions of Section 16 of the Pharmacy Act, 1868, which enable the executor, administrator, or trustee of the estate of a deceased, pharmaceutical chemist or chemist and druggist to continue his business so long as such business is *bonâ fide* conducted by a duly qualified assistant, shall be construed as enabling such executor, administrator, or trustee to carry on the business, if and so long only, as in every premises where the business is carried on the business is *bonâ fide* conducted by a duly registered pharmaceutical chemist or chemist and druggist, as the case may be, and the name of the person by whom the business is so conducted in any premises is conspicuously exhibited in the premises."

Clause 4 of the Bill deals with the application of the Pharmacy Acts to companies and provides that companies who sell poisons and drugs must employ registered pharmaceutical chemists at all their premises where such business is carried on and must display the name of the registered chemist.

On this clause,

The Earl of CREWE moved several amendments, the object of which was to provide that the clause should apply to any body corporate whether a company registered under the Companies Acts or not.

Lord BELPER stated the opinion that the provision as to displaying the names of the chemists would cause a good deal of trouble, and he suggested that something should be done to obviate that.

The Earl of CREWE recognised that the point was of some importance, and he preferred to deal with it in the whole House rather than in this committee.

The amendment was adopted, as was also another moved by the Earl of CREWE, providing that in Scotland anything which under Clause 4 would be an offence if committed by a body corporate should be an offence if committed by a firm or partnership.

Lord LAWRENCE at some length complained that Ireland was excluded from the operation of the Bill.

The CHAIRMAN said that that was hardly a point for the Standing Committee It should be brought up in the House itself.

The Earl of CREWE said he might be allowed to explain that originally Ireland was included in the Bill. That, however, had been strongly objected to in various quarters on the ground that the case of Ireland had not been heard at the preliminary inquiry before the Bill was drafted

The Bill was then ordered to be reported to the House.

HOUSE OF COMMONS.

WEDNESDAY, MAY 2ND.

No Suitable Candidate.

Mr. SLOAN asked the Postmaster General whether arrangements would be made and when for the appointment of an official medical officer in connexion with the Downpatrick Post Office.—Mr. SYDNEY BUXTON replied: Up to the present a suitable candidate for the post in question has not been forthcoming.

Fruit Growing on Sewage Farms.

Mr. H. H. MARKS asked the representative of the President of the Board of Agriculture whether any action had been taken, or was contemplated, with reference to the recommendation of the departmental committee on the fruit industry that an inquiry should be instituted into the alleged practice of growing fruit on sewage farms and the effect of such a practice on the public health.—Sir E. STRACHEY replied. We have been in communication with the Local Government Board on this subject and we are informed that no instance of disease attributed to fruit grown on sewage farms is known in the Medical Department of the Board The information in the possession of the Board indicates that fruit is seldom grown on sewage farms in this country and there is no confirmation of the suggestion that injury to health is caused by fruit so grown.

Vaccination of Teachers.

Mr RAMSAY MACDONALD asked the President of the Board of Education whether he could allow local education authorities to use their discretion regarding the vaccination of teachers.—Mr BIRRELL answered: I am proposing to insert in the Board's regulations a provision under which vaccination will not, so far as the Board is concerned, be required of any intending teacher who may state to the Board when applying for recognition that he has conscientious objections to being vaccinated. It will rest with the local authority to decide in each case whether they shall employ such a teacher. The Board will keep a record of any teachers who have not been vaccinated. —Mr. ARNOLD-FORSTER asked whether a similar discretion existed in other civilised countries in the world.—Mr BIRRELL replied: I am not a judge of civilisation

THURSDAY, MAY 3RD.

Dangers of Celluloid Articles

Mr T. R BETHELL asked the Secretary of State for the Home Department whether his attention had been drawn to accidents arising from the use of celluloid hair combs; and whether, having regard to the inflammable nature of this material, he would consider the advisability of introducing legislation to secure the marking of these articles in such a way that the public might know the danger to which they were exposed by their use —Mr. GLADSTONE answered: I am aware that a certain number of accidents have arisen from this cause, especially when impure celluloid is used. The question of putting marks upon materials of all sorts that are likely to be dangerous is a very wide one and I do not see my way to deal specially with celluloid but I hope the question will call attention to the possible danger of these articles and will put the public on their guard.

Pathogenic Bacteria in London Water.

Mr B. S STRAUS asked the President of the Local Government Board whether, with the view of improving the London water-supplies, he would consider the advisability of compelling, by legislation or otherwise the use of the process now in existence which was capable of dealing satisfactorily with contaminated water by completely destroying all pathogenic bacteria remaining in the supply after sand filtration.—Mr. JOHN BURNS answered I am not sure what is the particular process to which my honourable friend refers. The Metropolitan Water Board has before it the question of the research work to be undertaken with a view to determining whether the present system of purification of the London water cannot be still further improved and every practicable means of obtaining the best results will no doubt be thoroughly investigated The matter does not appear to me to be one for compulsory action by legislation or otherwise at the present time.

Inoculation against Enteric Fever.

Mr. EUGENE WASON asked the Secretary of State for War whether he had yet received the report of the committee appointed to consider the question as to the value of inoculation against enteric fever, and, if so, would he lay it upon the table of the House?—Mr. HALDANE replied: The final report of the antityphoid inoculation committee has not yet been received. An interim report has, however, been received and the recommendation contained therein, that the practice of voluntary inoculation against enteric fever should be resumed, has been approved by the Army Council. The voluntary inoculation of men proceeding abroad is now being carried out and arrangements are being made for those now serving in India. I will lay this report on the table.

FRIDAY, MAY 4TH.

Malarial Fever.

Major SEELY asked the Under Secretary of State for the Colonies whether he could grant a return showing the measures taken in the Crown Colonies and Protectorates to eradicate malarial fever and the results as shown by the health statistics of the inhabitants.—Mr CHURCHILL answered: The honourable Member's wish has been noted and the Secretary of State is instructing the advisory board for the Tropical Disease Research Fund to consider how it can best be met.

MONDAY, MAY 7th.

Registrars and Deaths.

Mr. CHARLES ROBERTS asked the President of the Local Government Board whether any order was issued in [illegible] prohibiting the registrars concluded with the toast of "The Chairman," proposed by Colonel Lane Notter.

UNIVERSITY OF CAMBRIDGE.—Mr. F. Gayner, M.B., B.C., has been elected to a Research Scholarship in connexion with the committee for the Study of Special Diseases.

THE BOLINGBROKE HOSPITAL.—The Princess Royal, who was accompanied by the Duke of Fife, visited Wandsworth on May 5th to lay the foundation-stone of the new buildings of the Bolingbroke Hospital. On their arrival the Princess Royal and the Duke of Fife were received by Canon Erskine Clarke, chairman of the board of governors; Mr. Everard G. Thorne, vice-chairman; Dr. H. Campbell Thomson (physician), Mr. D'Arcy Power (senior surgeon), Mr. Gerald S. Hughes (medical superintendent), and the reception committee. The ceremony, which was a brief one, was preceded by prayers said by the Bishop of Kingston. The Princess Royal laid the stone with the usual formalities, being assisted in doing so by the architects, Mr. K. D. Young and Mr. Henry Hall. After the stone-laying the Princess received a number of purses. At the close of the ceremony the Princess paid a visit to the wards of the hospital. She talked graciously to many of the patients and in the children's ward she distributed to the little patients roses from the bouquet which had been presented to her by Miss Russell, the matron.

QUEEN VICTORIA'S JUBILEE INSTITUTE FOR NURSES.—In the report for 1905 submitted to Her Majesty by the council of Queen Victoria's Jubilee Institute for Nurses it appears that the council was obliged last year, in order to meet the necessary expenditure, to withdraw £1600 from capital. But the special committee initiated by Queen Alexandra and organised by Lady Cadogan will, it is hoped, be able to make good the deficiency. The analysis of expenditure shows that nearly half the income is devoted to the training of nurses and another quarter to inspection and superintendence in order to maintain the standard of nursing work throughout the country. The institute's sphere of work is extending year by year and the Queen's nurses have in their hands an unlimited influence for good and it is now evident that they are in fact a social power for the improvement and education of those among whom they work. The Queen's nurses have been the pioneers in the work of nursing in the elementary schools which is now being developed very rapidly and has come to be recognised as a necessary factor in the success of any medical inspection of school children. The total number of associations now affiliated to the institute employing Queen's nurses is 694 and the number of Queen's nurses employed on Jan. 1st was 1313. Both figures show a considerable increase on the previous year.

DONATIONS AND BEQUESTS.—The Drapers' Company has sent a cheque for £10,000 to the fund for the removal of King's College Hospital to South London. The Skinners' Company has sent £250, being the first instalment of its promised donation of £500; and the Leathersellers' Company has contributed 100 guineas.—Among the donations received by the committee of the General Lying-in Hospital, York-road, Lambeth, towards the special fund for enlargement to meet the requirements of King Edward's Hospital Fund are the following: Lord Lister, president of the hospital, £100; Lord Iveagh, £50; collected by nurses and friends, £58.—By his will Mr. George Vye of Ramsgate has bequeathed £1000 to the Seamen's Infirmary and General Hospital, Ramsgate, and £250 to the Ramsgate Dispensary.—By the will of Mrs. L. B. E. Waterman £1500 are bequeathed to the Royal United Hospital, Bath, to endow a bed and a cot in memory of "General Edmund Frederick Waterman and Louisa Butler Eliza Waterman, his wife."—The late Mr. Charles Edwin Trimmer of Farnham has bequeathed £3000 to Trimmer's Cottage Hospital, Farnham, and £300 to the Royal County Hospital, Guildford.—The late Mr. J. Oliff has bequeathed £600 to the funds of the Bristol Royal Infirmary.—Under the will of Mrs. Mary Seaton, of Chorlton-on-Medlock, Manchester, £1000 are bequeathed to the Northern Counties' Home and Hospital for Incurables; £500 to endow a cot for crippled and incurable children in the Bethesda Home, Manchester, to be known as the "Arnold" cot; and £500 to endow a similar cot, to be known as the "Mary Seaton" cot.—Professor Lionel Smith Beale, F.R.S., has by will bequeathed £100 to King's College and £100 to King's College Hospital.—By the will of Mrs. Sarah Code, of Cornwall, £500 are bequeathed to the Penzance Infirmary and Dispensary, £200 to the Hospital for Sick Children, Great Ormond-street, London, and £200 to the Royal Hospital for Incurables, Putney.

CENTENARIANS.—The death occurred at Pontrhydyfen, Glamorganshire, on April 24th, of Mrs. Mary Thomas who was 105 years of age, having been born at Carmarthen on March 25th, 1801.—Mr. J. Carne, the parish clerk of St. Columb Minor, Cornwall, celebrated the 100th anniversary of his birthday on May 3rd. He was entertained at a public tea in the schoolroom in the evening and was afterwards presented with an oak armchair on which was an inscription recording the fact that it was given to him on his hundredth birthday.

ROYAL DEVON AND EXETER HOSPITAL.—On May 4th Mrs. Nosworthy of Dawlish formally opened the new operating theatre at the Royal Devon and Exeter Hospital. There was a large attendance, including the Countess of Iddesleigh and Sir Charles and Lady Follett. The operating theatre, which is a gift from Mrs. Nosworthy to the hospital, had been fitted up according to modern requirements and was erected at a cost of £1800. Dr. J. Delpratt Harris, the senior honorary surgeon to the hospital, in a short speech thanked Mrs. Nosworthy for her generosity and on behalf of the surgical staff presented her with a framed tracing of the foundation-stone of the institution, the position of which was only quite recently discovered. It bore the inscription: "Devon and Exeter Hospital; founded A.D. 1741."

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of the above society was held on May 3rd at 11, Chandos-street, Cavendish-square, W., Mr. Willett, Vice-President, being in the chair.—The proceedings were opened by the Chairman referring to the great loss which the society had sustained by the death of the late President, Mr. Christopher Heath, who had always taken the greatest interest in the society's welfare and had been a most regular attendant at its meetings. A formal motion of condolence was passed. A vote of thanks was moved to the editors of the medical journals for their courtesy in inserting the reports of the society from time to time; this was carried unanimously. During the year six new members were elected, five members died, and two resigned. At the end of the year there were 148 life members and 149 subscribers. Four widows were elected and two widows died, there being 54 in receipt of pensions at the end of the year. Three orphans were elected, making a total of 19 in receipt of pensions. The income derived from the invested funds of the society was £3098 19*s.* 2*d.*, from subscriptions £300 6*s.* 2*d.*, from donations £23 1*s.*, from life subscriptions £134 8*s.*, and a legacy of £250 had been received during the year. £3241 had been distributed among the annuitants of the charity. The working expenses of the society for the year were £248 16*s.* 7*d.* Dr. George Fielding Blandford was unanimously elected President and Dr. F. de Havilland Hall one of the treasurers. Six directors were elected in place of the six senior who retired according to the by-laws.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Vaccination Prosecutions.

MR. PICKERSGILL has introduced a Bill in the House of Commons to provide that no prosecution under the Vaccination Acts shall be commenced without the authority of the guardians.

Grievances of Poor-Law Medical Officers.

The grievances of Poor law medical officers in Scotland were brought before the Secretary for Scotland by an influential deputation on May 8th. Mr. W. L. Muir of Glasgow read a statement on behalf of the Scottish Poor-law Medical Officers' Association which may be summarised as follows: "On the passing of the Local Government (Scotland) Act, 1894, the membership of parish councils was thrown open to all ratepayers, with the result that, in the small outlying parishes, chiefly in the Highlands and islands, many members of parish councils have been elected who are not socially or intellectually fit to be intrusted with the absolute control of their medical officers. The result has been a very serious increase in cases of injustice towards

Evelina Hospital for Sick Children, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

Fareham, Hants County Asylum.—Second Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, board, washing, and attendance.

Gateforth, near Selby, Leeds Tuberculosis Association Sanatorium.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

Glasgow Samaritan Hospital for Women.—House Surgeon.

Great Northern Central Hospital, Holloway, N.—Surgeon to the Throat and Ear Department.

Hartshill, Stoke-on-Trent, North Staffordshire Infirmary and Eye Hospital.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.

Hospital for Women, Soho-square, W.—Surgeon Dentist.

London Hospital, Whitechapel, E.—Surgical Registrar.

Macclesfield General Infirmary.—*Junior House* Surgeon. Salary £50 per annum, with board and residence.

Maidstone, West Kent General Hospital.—Senior House Surgeon, unmarried. Salary £100 per annum, with board and residence.

New Hospital for Women.—House Physician, Resident Medical Officer, Senior Obstetric Assistant Anæsthetist, and Clinical Assistant.

North-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary *at rate of* £60 per annum, with board, residence, and laundry.

North West London Hospital, Kentish Town-road.—Resident Medical *Officer and Assistant Resident Medical* Officer for six months. Salary at rate of £50 per annum, with board, residence, and washing.

Portsmouth Borough Asylum.—Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, lodging, and washing.

Royal Free Hospital, Gray's Inn-road, W.C.—Assistant to the Clinical Pathologist (salary £50 per annum), also Junior Obstetric Assistant and Assistant Anæsthetist. *All females.*

Royal Westminster Ophthalmic Hospital, West Strand, W.C.—Clinical Assistants. Also House Surgeon for six months. Honorarium £25.

St. Mary's Hospital, Paddington, W.—Surgeon.

Sheffield Children's *Hospital (East-end Branch)*.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

Sheffield Royal Hospital.—Assistant House Physician, unmarried. Salary £50 per annum, with board and lodging.

Sheffield, Royal Infirmary.—Junior Assistant House Surgeon. Salary £65 per annum, with board, lodging, and washing. Also Junior House Physician. Salary £60 per annum, with board, lodging, and washing.

Swansea General and Eye Hospital.—House Surgeon. Salary £75 per annum, with board, apartments, washing, and attendance.

Taunton and Somerset Hospital, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Tottenham Hospital, London, N.—House Surgeon. Salary £90 per annum, with residence, board, and laundry.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—*Surgeon to In*-patients. Also House Surgeon.

Western General Dispensary, Marylebone-road, N.W.—Honorary Surgeon.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £50 *per annum, with* board, washing, and apartments.

Winwick, Warrington, Lancashire County Asylum.—Locum Tenens Medical Officer *for* four to five *months*. Salary 4 guineas per week, with apartments, board, attendance, and washing.

The Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Cavendish, in the county of Suffolk.

Births, Marriages, and Deaths.

BIRTHS.

Jackson.—On May 7th, at Woodhouse, Bakewell, the wife of R. Houlton Jackson, M.R.C.S., L.R.C.P., of a daughter.

Porter.—On May 9th, at The Limes, Berkhamsted, the wife of Charles B. Porter, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

Williams.—On May 5th, at Queen Anne-street, Cavendish-square, the wife of Campbell Williams, *F.R.C.S.*, *of* a son.

Wilson.—On April 29th, at Tregea House, Penzance, the wife of W. R. Wilson, L.R.C.P. Irel., L.R.C.S. Irel., L.S.A. Lond., of a daughter.

MARRIAGES.

Cotter—Musson.—On April 7th, at St. Peter's Church, Fulham, by the Rev. Canon Townend, George Edmond Wentworth Cotter, M.A., M.B., B.C. Camb., M.R.C.S., L.R.C.P. Lond., son of the late Duncan Donald Darroch Cotter, Officer 6th Foot, County Cork, Ireland, to Muriel Isobel, youngest daughter of Samuel *James* Musson, of Upper Norwood.

Thurnell—Armstrong.—*On April 30th*, at St. Mark's Church, Rosherville, Herbert Leslie Thurnell, M.A. Cantab., M.D., to Margaret Mary, eldest daughter of the late John *Christopher* Armstrong, Surgeon, Eng., *and of* Mrs. Armstrong, of Springfield, Gravesend.

DEATH.

Baines.—On May 5th, at 11, Cranley-place, S.W., Matthew Baines, Esq., V.D., M.D. Lond., Knt. of Grace of the Order of St. John of Jerusalem.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, *Marriages, and Deaths.*

Notes, Short Comments, and Answers to Correspondents.

AMERICAN ADVERTISEMENTS.

Mark Twain once wrote a small article entitled "Hogwash" in which he girded at certain forms of American journalism. Latterly American ways have affected British journalism, more especially in the advertisement department, and "hogwash" results. A flagrant instance of this now lies before us in the shape of a two-column advertisement which appeared in the *Daily News* of April 24th. It is headed "*Famous Medical Consultations*" and is "specially written by Howard Langdale." After referring to the illness of the "late Vice Reine" of India, the illness of the King in the Coronation year is mentioned and also that of the late Emperor *Frederick. Then comes the impassioned personal* note with which the quack of to-day lures his victim on. "You to-day who are suffering, you whom illness has claimed for your own, this is not your natural state. The remedy you need, the power that will bring the blossoms of hope blooming to your eyes, is at hand." The remedy, we find lower down, is Page Woodcock's pills. "Every box contains concentrated health and joyous relief." In another part is the *following: "Page Woodcock's pills* positively cure indigestion and all liver troubles, no matter of how long standing; also biliousness, spasms, *constipation*, severe headaches, *heartburn*, anæmia, and female ailments, as over 50 years' experience has proved. ... ..." Now this statement is a deliberate untruth and Page Woodcock, Limited, must know this perfectly well; and so should the advertisement manager of the *Daily News* if he exercises any control over his advertisements. Not that the *Daily News* is a bit worse in the matter of deceiving advertisements than certain other journals and, above all, than the popular sixpenny *monthly* magazines, but such an advertisement is infinitely more demoralising than the result of a race, which the *Daily News* will not print.

The article, we should add, is illustrated with pictures which are supposed to be portraits of Lady Curzon, Sir F. Laking, Sir F. Treves, Sir Thomas Barlow, Sir Morell Mackenzie, and Page Woodcock. That of Lady Curzon is no concern of ours but those of the three living *medical* men would afford excellent grounds for a libel action. However, we suppose that the stuff from which we have quoted appeals to a large class of mind and fills the pockets of the quacks who put it forth. The quack, as was his prototype in Eden, *is more* subtle than any beast, but we still await the time when he shall be called upon to pay a heavy licence for the right to deceive.

TWO PRESENT DAY EVILS IN PARODY.

Among the results of the *Westminster Gazette's* weekly prize *competitions* are the following *parodies which tersely* state the truth with regard to two evils, one the result of ignorance and the other the *result of* knowledge—that is to say, knowledge of the patience and long suffering of the public and the tortoise-like movement of the law where public welfare is concerned:—

They Were Seven.

"I met a little baby-boy
Who, in a 'pram' propelled,
Gnawed on a rich pork-pie with *joy*—
And having gnawed, he yelled.

His sister stopped and bought some gin,
But ere it could go down
I stayed her, crying 'What a sin!'—
And met a wondering frown.

'Sisters and brothers this way fed,
How many of them die?'
'We've buried seven in all,' she said,—
'I'm not surprised,' quoth I."

"I caught an 'Arrow' passing the Square,
It seemed to go—well, anywhere;
But, though swiftly it flew, the smell
Somehow followed it fairly well.'"

A BREACH OF TRUST.

To the Editors of The Lancet.

Sirs,—The vaccination inspector of the Local Government Board visited me a short time ago. In the course of showing him specimens of my work we visited a *woman lately* come to the village. After examining my vaccination he asked if an older child had been vaccinated. The mother replied that it had by Dr. X—— of Y——, and she added that she had asked that it should be vaccinated in only two places, but Dr. X—— had replied that he was bound to vaccinate in four places, but that *only two places would take*. The inspector remarked that Y—— was in his district and made careful notes. It was evident from the arm that only *two* places had taken.

I am, Sirs, yours faithfully,

May 6th, 1906.

O. C. J.

of births, deaths, and marriages from communicating particulars of the deaths occurring in their districts for publication in the local press; and whether, if such an order was now in force, there would be any objection to rescinding it.—Mr. BURNS answered: There was no new order on this subject in 1904, but in that year the Registrar General issued a circular with a view to the stricter observance of a regulation which had long been in force and which forbids a registrar of births and deaths to publish any statement of facts respecting the registration of births or deaths without the permission of the Registrar-General. I am not prepared to interfere with the discretion of the Registrar-General in the matter.

The Prime Minister and Infantile Mortality.

Mr. GODFREY BARING asked the First Lord of the Treasury whether his attention had been called to that passage in the report of the Registrar-General dealing with the high death-rate amongst infants; and whether he had considered the desirability of appointing a Royal Commission to inquire into infantile mortality and its causes.—Sir HENRY CAMPBELL-BANNERMAN said: My attention has been called to the part of the report referred to. The subject of infantile mortality and its causes is receiving the careful consideration of the Government but we do not see our way at present to the appointment of a Royal Commission to inquire into this most important subject.

Charge for Death Certificates.

Mr. SUMMERBELL asked the President of the Local Government Board whether he could give the number of death certificates issued to relatives of deceased members of friendly collecting societies during the period Jan. 1st to March 31st, 1906; the number of death certificates issued to relatives of deceased members of trade unions during the period Jan. 1st to March 31st, 1906; the number of death certificates issued to relatives of deceased assurants in the assurance companies during the period Jan. 1st to March 31st, 1906; and whether he would state why a uniform charge of 1*s.* or 1*s.* 3*d.* per certificate of death should not apply equally in respect to claims on assurance companies as to claims on friendly collecting societies.—Mr. BURNS answered: I am informed by the Registrar General that the certificates referred to are issued by local registrars only and that no returns of the numbers of such certificates are, or ever have been, received at the Central Office. He further states that if returns were required they would have to be specially collected from more than 2000 registrars in England and Wales alone and when obtained the certificates could not be classified according to the descriptions in the question. He adds that the value of such a return would not be commensurate with the trouble and expense of its preparation. As regards the last part of the question, I may point out that the charges referred to are fixed by statutory provisions which do not apply to assurance companies.

TUESDAY, MAY 8TH.

Enteric Fever at Darenth.

Mr. PIKE PEASE asked the President of the Local Government Board whether his attention had been called to the successive outbreaks of enteric fever during the past two years at the Metropolitan Imbecile Asylum at Darenth, Kent, traceable to broken drains and to the fact that the drains of this asylum were used to irrigate portions of the inclosure and that the contents finally disappeared into the chalk upon which the asylum stood; and whether, seeing that this inclosure was within five furlongs from the Darenth pumping-station of the Metropolitan Water Board, and at a higher level, he would state what steps he proposed to take.—Mr. BURNS replied: I am aware that there have been occurrences of enteric fever at the asylum during the past two years and that the first of them was supposed to be due to a defect in the drainage. It is the case that the drainage of the asylum is disposed of by irrigation on the asylum farm but I understand that the land is at a considerable distance from the Darenth well and that the local conditions are such that there would appear to be no risk of the well becoming polluted from anything that may happen at the asylum I will, however, communicate further with the Metropolitan Water Board on the subject.

BOOKS, ETC., RECEIVED.

AMERICAN CLIMATOLOGICAL ASSOCIATION (Secretary, Dr. GUY HINSDALE, Hot Springs, Virginia, U.S.A.).

Transactions of the American Climatological Association. For the year 1905. Vol. XXI. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

On Carbohydrate Metabolism. (A Course of Advanced Lectures in Physiology delivered at the University of London, May, 1905). With an Appendix on the Assimilation of Carbohydrate into Proteid and Fat. Followed by the Fundamental Principles, and the Treatment, of Diabetes Dialectically Discussed. By F. W. Pavy, M.D., LL.D., F.R.S., Honorary Physician to King Edward VII. Hospital, Consulting Physician to Guy's Hospital. Price 6*s* net.

CLARENDON PRESS, Oxford.

Handbook of Anatomy for Art Students. By Arthur Thomson, M.A., M.B., Professor of Anatomy in the University of Oxford. Third edition. Price 16*s.* net.

CONSTABLE, ARCHIBALD, AND COMPANY, LIMITED, 16, James-street, Haymarket, London, S.W.

Physiology of the Nervous System. By J. P. Morat, of the University of Lyons. Authorised English Edition. Translated and edited by H. W. Syers, M A., M.D. Cantab., Physician to the Great Northern Central Hospital. Price 31*s.* 6*d.* net.

HOEBER, PAUL B., 69, East 59th Street, New York, U.S.A.

Uric Acid. The Chemistry, Physiology, and Pathology of Uric Acid, and the Physiological Important Purin Bodies. With a Discussion of the Metabolism in Gout. By Francis H. McCrudden. Price not stated.

OWEN, A. AND Co., 28, Regent-street, London, S.W.

Darwinism and the Problems of Life: a Study of Familiar Animal Life. By Conrad Guenther, Ph.D., Professor at the University, Freiburg in Baden. Translated from the third edition by Joseph McCabe. Price 12*s.* 6*d.*

PENTLAND, YOUNG J., Edinburgh and London.

Text-book of Anatomy. Edited by D. J. Cunningham, F.R.S., M.D. Edin. et Dubl., D.Sc., LL.D. Glasg. et St. And., D.C.L. Oxon., Professor of Anatomy, University of Edinburgh. Second and thoroughly revised edition. Price, cloth, 31*s.* 6*d.* net.

W. B. SAUNDERS COMPANY, Philadelphia and London.

A Text-book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Physician to the Medico-Chirurgical Hospital, Philadelphia. Seventh edition, thoroughly revised. Price 24*s.* net.

A Treatise on Surgery. By George Ryerson Fowler, M.D., Brooklyn, New York City, Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York. Vol. I. (In two volumes.) Price 3 guineas per set, net.

WILLIAMS AND NORGATE, 14, Henrietta-street, Covent Garden, London. (For the Committee of the Liverpool School of Tropical Medicine.)

Liverpool School of Tropical Medicine. Memoir XVIII. Reports of the Expedition to the Congo, 1903–5. By the late J. Everett Dutton, M.B. Vict., and John L. Todd, B.A., M.D., C.M. McGill. With Descriptions of Two New Dermanyssid Acarids by Robert Newstead, A.L.S., F.E.S., &c., and the Anatomy of the Proboscis of Biting Flies by J. W. W. Stephens, M.D. Cantab., and Robert Newstead, A.L.S., F.E.S., &c. March, 1906. Price 7*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, A. G., M.B., Ch.M. Sydney, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BULKELEY, L. A. H., M.B., B.S. Durh., has been appointed Junior House Physician at the Royal Infirmary, Newcastle-on-Tyne.

CARTER, F. BOLTON, M.D., M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Leicester Infirmary.

CUNNINGHAM, H. B., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

DICK, W., L.R.C.S., L.R.C.P., has been appointed House Surgeon at the Children's Hospital, Bradford.

DUFF, DONALD, F.R.C.S. Edin., F.F.P.S. Glasg., has been appointed Extra Dispensary Surgeon to the Glasgow Royal Infirmary.

HEDDEN, RICHARD, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed to the Medical Charge of Troops in the Honiton (Devon) Camp.

JONES, BERESFORD, M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne

LEE, H. F., M.B., C.M. Edin., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

LUNN, W. E. C., M.B., B S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

SHAW, CHARLES J., M.B., M.R.C.P. Edin., has been appointed Senior Assistant Medical Officer at the Royal Asylum, Sunnyside, Montrose.

STACK, EDWARD HUGH EDWARDS, M.B., B.C. Cantab., F.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Orthopædic Hospital and Home for Crippled Children, Bristol.

TATE, E., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

WILLAN, R. J., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

WORGER, RICHARD GEORGE, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Radstock District (Somerset).

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE.—Examination of Candidates for not less than Forty Commissions.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80, with fees.

BIRKENHEAD UNION INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, fire, and gas.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Honorary Assistant Physicians.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £60 per annum, with board, washing, and residence.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Dental Surgeon.

EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.)—8.30 P.M. Paper:—Prof. R. Boyce (Liverpool): The Yellow Fever Epidemic in New Orleans in 1905.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. G. Little: Clinique. (Skin) 5.15 P.M. Lecture:—Mr. C. R. B. Keetley: (1) Appendicostomy; (2) Tuberculosis of the Cæcum.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. Low: Tropical Medicine. 12 noon: Pathological Demonstration. Mr. Baldwin: Practical Surgery. 2 P.M. Medical and Surgical Clinics. 4 P.M. Mr. Dunn: Ophthalmology. 5 P.M. Dr. Saunders: Examination of Gastric Contents.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Sir D. Duckworth: Medicine. 3.15 P.M. Mr. W. Turner: Surgery. 4 P.M. Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Mercer: Demonstration (Mental). (Post-Graduate Course.)

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. B. Abrahams: Clinique. (Medical.) 5.15 P.M. Lecture:—Mr. H. J. Paterson: Gastric Ulcer.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. 3 P.M. Dr. S. Taylor: Demonstration in Medical Wards. 5 P.M. Mr. Armour: Intestinal Obstruction.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. T. Hewlett: Medicine. 3.15 P.M. Mr. Carless: Surgery. 4 P.M. Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. R. Russell: Cerebral Tumours.

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. G. N. Meachen: Diagnosis and Treatment of Ringworm.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M. Mr. W. R. Smith: The Law of Public Health. (Lectures III. and IV.)

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical). 5.15 P.M. Lecture:—Dr. G. H. Savage: Dementia Præcox.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—11 A.M. Dr. Davis: Examination of Throat, Nose, and Ear. 12 noon. Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics. 5 P.M. Dr. Beddard: Practical Medicine. (Lecture I.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. F. Taylor: Medicine. 3.15 P.M. Mr. M. Robson: Surgery. 4 P.M. Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.).—4 P.M. Clinical Lecture:—Dr. B. Shaw: Types of Pulmonary Tuberculosis from the Point of View of Treatment (with illustrative cases).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. W. Wingrave: Pathology.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M. Dr. C. Prausnitz (Breslau): The Bacteriology of Water, Milk, and Tuberculosis. (Lecture II.)

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical). 5.15 P.M. Lecture:—Dr. H. Campbell: Observations on Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. 4 P.M. Mr. S. Edwards: Demonstration in Surgical Wards. 5 P.M. Mr. Baldwin: Practical Surgery.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. G. Rankin: Medicine. 3.15 P.M. Sir W. Bennett: Surgery. 4 P.M. Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Demonstration:—Mr. H. Cooper: Electrical Treatment.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Hunter: Demonstration (Surgical).

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Dr. Poynton: Congenital Heart Disease.

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Clinique. (Ear).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. 5 P.M. Mr. Armour: Diagnosis of Appendicitis.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. Bradford: Medicine. 3.15 P.M. Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Sir V. Horsley: Cerebral Surgery.

SATURDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. Dr. Baldani: Demonstration in Medical Wards.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M. Operations. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

"A WARNING."

To the Editors of THE LANCET.

SIRS,—The letter of complaint by the "Victim" in THE LANCET of April 28th is very misleading to the British medical public as regards the inclusion of the Indians within the same brackets as the Eurasians. In the first place, it is a mortal offence to the Eurasian to be classed in any way with the Indian. The term "Eurasian" (though there are many exceptions) is generally understood to be in India the progeny of the Europeans with the lowest classes of India. So, fortunately or not, the Indians of the better classes have nothing in common with the Eurasians as a class. There are plenty of Indians as medical practitioners and assistants in Britain and they have been a great success here. It will be a great pity if their interests should suffer for the reckless conduct of a "Eurasian." Again, we must confess we do not understand what the "Victim" means when he says: "To revenge himself upon any ...... in a manner quite Eastern in its completeness." In his great distress the poor "Victim" forgets that it was the Eastern prophets who first taught the world to do good for evil but not take delight in revenge. We trust very sincerely that the facts of the "Victim" will be proved and this "half-white" Othello's occupation will be gone. There are good men and bad men all the world over, even in Britain as well as in India, and the medical profession, calling itself the noblest profession in the world, must learn to discriminate—in the twentieth century at least.

We remain, Sirs, yours faithfully,
D. S. RAMACHANDRA RAO, M.A., M.B., Ch.B. Edin.
R. N. COORLAWALA, L.R.C.P. Edin., D.P.H. Cantab.
Coram-street, W.C., May 9th, 1906.

OXYGENATION OF REBREATHED AIR.

THE *Times Engineering Supplement* of May 9th states that the Niagara Electro-Chemical Company is manufacturing a form of peroxide of sodium which has the *property of emitting free oxygen* when brought into contact with moist carbon dioxide. An experiment has been made by shutting a man up in an air-tight box, two pounds of this peroxide being inclosed in the box with him. The size of the box was such that the air in it would have sufficed him for not more than 20 minutes but the sodium peroxide enabled him to remain in the box without any sort of detriment for six hours.

AN UNFORTUNATE CIRCULAR.

To the Editors of THE LANCET.

SIRS,—Mr. J. Munro Roger seems to have entirely missed the point his letter of April 30th. I never supposed that Dr. Moyle O'Connor had any previous knowledge of the intention to issue the obnoxious circular, but permit me to point out that it is one thing to announce in the descriptive pamphlet of the advantages of a block of flats that there is a doctor residing upon the premises but quite another to issue a *circular to every tenant pointing out that a particular medical man has* been officially "appointed physician" to the estate, and although that course may have been adopted in other cases "two wrongs do not make a right."

Yours very sincerely,
May 6th, 1906. YOUR PREVIOUS CORRESPONDENT.

MOTOR CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Would any of your readers who have possessed, and thoroughly tested the cost of the running of, a car as described, minus the wages of driver, kindly supply me with the desired information. What would be the cost of the upkeep of a car for a year, going, say, on the average 20 miles a day on good hilly country roads, the car being a 12 to 16 horse power, four-cylinder, French make, weight about 18 cwt., and seated for four people, tyres 810 × 90 m.

I am, Sirs, yours faithfully,
May 5th, 1906. $Fe_2O_3(H_2O)_3$.

◆

Phosphates.—1. Apocodeine hydrochloride is used in France to some extent as a laxative. The passage as printed is correct. 2. Iodo-acetone is a solution of iodine in acetone of the strength of 1 in 5 or 1 in 10.

ERRATUM.—In Dr. Gordon Sharp's letter, headed "100 Consecutive Cases of Measles without Chronic Middle-ear Disease," which was published on p. 1280 of THE LANCET of May 5th, the words "half a fluid drachm of solution of ammonia" should read "*half a fluid* drachm of solution of *acetate* of ammonia."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Bolton Journal and Guardian, Westminster Gazette, Rotherham Advertiser, The Down Recorder, Sheffield Telegraph; Stafford Sentinel, Sheffield Independent, Lancashire Post, East London Advertiser, Evening Standard, Cork Examiner, Birmingham Gazette, Dublin Express, Hammersmith Observer, Manchester Courier, Dublin Evening Mail, Bexhill Chronicle, Newcastle Evening Chronicle, Scotsman, Manchester Guardian, Aberdeen Journal, Hereford Times, Dundee Advertiser, Belfast News Letter, Aberdeen Weekly Free Press, Bradford Observer Budget, Belfast Whig, Isle of Man Weekly Times, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 10th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia. in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
May 4	29·83	S.W.	0·02	95	60	50	60	64	Cloudy
" 5	30·20	S.W.	...	114	63	45	47	52	Fine
" 6	30·13	S.W.	...	69	56	50	51	54	Cloudy
" 7	30·15	S.W.	...	86	65	50	55	56	Overcast
" 8	30·01	S.E.	...	116	76	51	56	61	Fine
" 9	29·80	N.	...	92	63	57	55	59	Cloudy
" 10	29·78	N.E.	...	57	49	46	46	48	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), *Soho-square* (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (8 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., *Dental*, 2 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), *University College* (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern *Central* (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), *Children*, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), *Charing Cross* (2 P.M.), *St. George's* (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. General Meeting. 8.30 P.M. Papers:—Mr. W. H. Battle: Method of Operation for the Radical Cure of Femoral Hernia.—Mr. H. J. Curtis: A Successful Case of Appendicitic Abscess and Multiple Liver Abscess, Appendicectomy and *Drainage*.

TUESDAY (15th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Card Specimens will be shown by *Dr. Lawrence* and Dr. C. Lockyer. Dr. V. Bonney, Dr. J. Bernstein, Dr. J. Teacher (Glasgow), Mr. Hicks, Dr. Williamson, and Dr. Spilsbury: Chorion-epithelioma.—*Dr. J. Fawcett*: Diphtheria of Œsophagus and Bronchi.

WEDNESDAY (16th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Exhibition of Pond Life.

FRIDAY (18th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5.30 P.M. Wightman Lecture. Dr. A. Broca (Paris): Appendicitis in Childhood.

Three Lectures
ON
THE PRESERVATION OF HEALTH AMONGST THE PERSONNEL OF THE JAPANESE NAVY AND ARMY.

Delivered at St. Thomas's Hospital, London, on May 7th 9th, and 11th, 1906,

BY BARON TAKAKI, F.R.C.S.ENG., D.C.L.,
LATE DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE IMPERIAL JAPANESE NAVY.

LECTURE I.

Delivered on May 7th.

MR. TREASURER AND GENTLEMEN,—I am here to-day owing to an invitation from the staff of St. Thomas's Hospital and Medical College. I feel that it is a great honour to me personally and also a great compliment paid to the medical profession of the Japanese empire, and I thank you all on their behalf for your cordial and friendly feeling towards us.

I think some of you are already aware that I was invited by Cartwright's Lecture Committee of the Alumni Association of the College of Physicians and Surgeons of Columbia University of New York to deliver the Cartwright lecture and I chose the Sanitation of the Japanese Navy and Army as the subject of my lecture. At that time I had no idea and never thought that I should be asked to speak before such a large and distinguished assembly as is present here to-day. But when I was in America I was requested by the staffs of this hospital and St. Thomas's Medical College to tell them some of my experiences and I could not resist accepting such an honour from this hospital, with which I may claim very close relation, in so much as I am one of the graduates of this ancient institution and have worked under this roof as house officer. The subject of my address here is the same as in the Cartwright lecture, the reason being that on this subject I may claim to having had some practical experience and knowledge on account of my long service in the navy.

TABLE I.—SHOWING THE GENERAL HEALTH OF THE NAVY.

Year.	Strength.	All diseases and injuries. Cases of disease or injury.	Ratio of cases per 1000 of strength.	Average ratio of cases per person per annum.	Died.	Ratio of deaths per 1000 of strength.	Invalided.	Ratio of invalided per 1000 of strength.	Cases of kak'ke or beri-beri. Cases of kak'ke.	Ratio of cases of kak'ke per 1000 of strength.	Died.	Ratio of deaths per 1000 of strength.	Invalided.	Ratio of invalided per 1000 of strength.
1878	4523	17,728	3928·45	3·93	56	12·37	44	9·72	1485	327·96	32	7·07	19	4·20
1879	5031	22,426	4413·70	4·41	119	23·42	39	7·68	1978	389·29	57	11·20	8	1·57
1880	4956	22,819	4604·32	4·60	63	12·71	43	8·68	1725	348·06	27	5·45	9	1·82
1881	4641	15,766	3397·12	3·40	81	17·45	29	6·25	1163	250·59	30	6·46	16	3·35
1882	4769	12,074	2531·77	2·53	103	21·60	30	6·29	1929	404·49	51	10·69	17	3·56
1883	5346	16,380	3063·97	2·90	85	15·90	28	5·24	1236	251·20	49	9·17	4	0·75
1884	5638	10,515	1865·02	1·81	45	7·98	44	7·80	718	127·35	8	1·42	1	0·18
1885	6918	6,666	992·48	0·91	49	7·08	33	4·77	41	5·93	—	—	1	0·14
1886	8475	4,874	577·46	0·52	63	7·43	52	6·14	3	0·35	—	—	—	—
1887	9016	3,954	434·22	0·40	55	6·04	56	6·15	—	—	—	—	—	—
1888	9184	3,679	400·59	0·40	65	7·08	48	9·15	—	—	—	—	—	—

Here I have Table I. showing various details from 1878–1888 and I am now going to explain all the details. From 1888 to the present day there have been no important changes. In looking over this table we find the average number of general diseases during 1878, 1879, and 1880 to be just over 4327 per 1000—that is, one sailor suffered 4·32 times every year. The death-rate averaged 16·34 per 1000 and the invaliding-rate 8·75. The number of beri-beri (kak'ke) patients was 349·33 per 1000. Those who died from it averaged 7·96 and those invalided 2·45. Therefore, the number of sailors lost through death and made invalids owing to general diseases was 24·09 per 1000 and those lost through death and invaliding from beri-beri 10·43 per 1000. If we now subtract 10·43 from 24·09 only 13·66 remain. Therefore it was clear that if beri-beri could be wholly exterminated the number of losses from illness would decrease to 13·66.

From 1881 to 1883 the number of cases of illness slightly decreased. In 1884 the general aspect of the health of the navy suddenly changed for the better and the number of general diseases as well as cases of beri-beri markedly decreased. The number of general diseases was 1865·02 per 1000—that is, one person became ill 1·8 times a year. Deaths per 1000 decreased to 7·98 and invalids to 7·80. The number of beri-beri cases averaged 127·35 per 1000. Deaths from it decreased to 1·42. Therefore, the average of deaths and invalids from general diseases decreased to 15·78 and that of beri-beri to 1·60 per 1000. Similarly in 1885 the number of general diseases decreased to 992·48 per 1000 and deaths to 7·08 per 1000. Beri-beri decreased to 5·93 per 1000 without death. So the number of deaths and invalids decreased to 12·14. In 1886 general diseases per 1000 averaged 577·46, deaths 7·43, and beri-beri 0·35, without death or invaliding. In 1887 general diseases per 1000 were 434·22, deaths 6·04, and invalids 6·15. In 1888 general diseases per 1000 averaged 400·59, deaths 7·08, and invalids 9·15. In short, the number of losses through deaths and invalids per 1000 in 1884 was 15·78, in 1885 12·14, in 1886 12·57, in 1887 12·19, and in 1888 16·33. If we now compare these five years with three years from 1878 to 1880 we find a marked decrease of general diseases and disappearance of beri-beri with corresponding decrease in the loss of sailors year by year. These good results must depend upon certain causes and in order to explain them I will first of all try to describe various important facts since the establishment of the Naval Medical Bureau in 1872.

THE ESTABLISHMENT OF THE NAVAL MEDICAL BUREAU.

The Naval Medical Bureau of the Japanese Empire was established for the first time in 1872. At that time there was no one who had a thorough idea of naval hygiene because up to that time there was no special sanitary work carried out by medical officers in our navy, and other officers thought that the necessity of medical men in the Navy was simply for treating diseases and wounded. Even the medical officers thought in the same way. They never had the slightest idea of doing anything in preventing disease or in general hygiene. Accordingly, the only medical record left from 1872 to 1877 was limited to the description of results of treatment, name of diseases, and names of patients taken into hospitals. Between 1878 and 1883 the record gradually began to include facts about hospital and non-hospital patients and some hygienic affairs. Finally, from 1884 the records became more and more complete, giving various tables illustrating hygienic conditions by the issue of instructions relating to the duties of the medical officers.

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Three Lectures
ON
THE PRESERVATION OF HEALTH AMONGST THE PERSONNEL OF THE JAPANESE NAVY AND ARMY.

Delivered at St. Thomas's Hospital, London, on May 7th 9th, and 11th, 1906,

BY BARON TAKAKI, F.R.C.S. ENG., D.C.L ,
LATE DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE IMPERIAL JAPANESE NAVY.

LECTURE I.

Delivered on May 7th.

MR. TREASURER AND GENTLEMEN,—I am here to-day owing to an invitation from the staff of St. Thomas's Hospital and Medical College. I feel that it is a great honour to me personally and also a great compliment paid to the medical profession of the Japanese empire, and I thank you all on their behalf for your cordial and friendly feeling towards us.

I think some of you are already aware that I was invited by Cartwright's Lecture Committee of the Alumni Association of the College of Physicians and Surgeons of Columbia University of New York to deliver the Cartwright lecture and I chose the Sanitation of the Japanese Navy and Army as the subject of my lecture. At that time I had no idea and never thought that I should be asked to speak before such a large and distinguished assembly as is present here to-day. But when I was in America I was requested by the staffs of this hospital and St. Thomas's Medical College to tell them some of my experiences and I could not resist accepting such an honour from this hospital, with which I may claim very close relation, in so much as I am one of the graduates of this ancient institution and have worked under this roof as house officer. The subject of my address here is the same as in the Cartwright lecture, the reason being that on this subject I may claim to having had some practical experience and knowledge on account of my long service in the navy.

Here I have Table I. showing various details from 1878–1888 and I am now going to explain all the details. From 1888 to the present day there have been no important changes. In looking over this table we find the average number of general diseases during 1878, 1879, and 1880 to be just over 4327 per 1000—that is, one sailor suffered 4·32 times every year. The death-rate averaged 16·34 per 1000 and the invaliding-rate 8·75. The number of beri-beri (kak'ke) patients was 349·33 per 1000. Those who died from it averaged 7·0[illegible] invalided 2·45. Therefore, the number of sailors lost through death and made invalids owing to general diseases was 24·09 per 1000 and those lost through death and invaliding from beri-beri 10·43 per 1000. If we now subtract 10·43 from 24·09 only 13·66 remain. Therefore it was clear that if beri-beri could be wholly exterminated the number of losses from illness would decrease to 13·66.

From 1881 to 1883 the number of cases of illness slightly decreased. In 1884 the general aspect of the health of the navy suddenly changed for the better and the number of general diseases as well as cases of beri-beri markedly decreased. The number of general diseases was 1865 02 per 1000—that is, one person became ill 1·8 times a year. Deaths per 1000 decreased to 7·98 and invalids to 7·60. The number of beri-beri cases averaged 127·35 per 1000. Deaths from it decreased to 1·42. Therefore, the average of deaths and invalids from general diseases decreased to 15·78 and that of beri-beri to 1·60 per 1000. Similarly in 1885 the number of general diseases decreased to 992·48 per 1000 and deaths to 7·08 per 1000. Beri-beri decreased to 5·93 per 1000 without death. So the number of deaths and invalids decreased to 12·14. In 1886 general diseases per 1000 averaged 577·46, deaths 7·43, and beri-beri 0·35, without death or invaliding. In 1887 general diseases per 1000 were 434·22, deaths 6·04, and invalids 6·15. In 1888 general diseases per 1000 averaged 400·59, deaths 7·08, and invalids 9·15. In short, the number of losses through deaths and invalids per 1000 in 1884 was 15·78, in 1885 12·14, in 1886 12·57, in 1887 12·19, and in 1888 16·33. If we now compare these five years with three years from 1878 to 1880 we find a marked decrease of general diseases and disappearance of beri-beri with corresponding decrease in the loss of sailors year by year. These good results must depend upon certain causes and in order to explain them I will first of all try to describe various important facts since the establishment of the Naval Medical Bureau in 1872.

THE ESTABLISHMENT OF THE NAVAL MEDICAL BUREAU.

The Naval Medical Bureau of the Japanese Empire was established for the first time in 1872. At that time there was no one who had a thorough idea of naval hygiene because up to that time there was no special sanitary work carried out by medical officers in our navy, and other officers thought that the necessity of medical men in the Navy was simply for treating diseases and wounded. Even the medical officers thought in the same way. They never had the slightest idea of doing anything in preventing disease or in general hygiene. Accordingly, the only medical record left from 1872 to 1877 was limited to the description of results of treatment, name of diseases, and names of patients taken into hospitals. Between 1878 and 1883 the record gradually began to include facts about hospital and non-hospital patients and some hygienic affairs. Finally, from 1884 the records became more and more complete, giving various tables illustrating hygienic conditions by the issue of instructions relating to the duties of the medical officers.

TABLE I.—SHOWING THE GENERAL HEALTH OF THE NAVY.

Year.	Strength.	All diseases and injuries. Cases of disease or injury.	Ratio of cases per 1000 of strength.	Average ratio of cases per person per annum.	Died.	Ratio of deaths per 1000 of strength.	Invalided.	Ratio of invalided per 1000 of strength	Cases of kak'ke or beri beri. Cases of kak ke.	Ratio of cases of kak ke per 1000 of strength.	Died.	Ratio of deaths per 1000 of strength	Invalided.	Ratio of invalided per 1000 of strength.
1878	4523	17,728	3923·45	3·93	56	12·37	44	9 72	1485	327·95	32	7·07	19	4·20
1879	5031	22,426	4413·70	4 41	119	23·42	39	7·63	1978	393·29	57	11·20	8	1·57
1880	4956	22,819	4504 32	4·60	63	12·71	43	8 68	1725	348·06	27	5 45	9	1·82
1881	4641	15,766	3397 12	3 40	81	17·45	29	6 25	1163	250·59	30	6·45	16	3·45
1882	4769	12,074	2531 77	2·53	103	21·60	30	6·29	1929	404·49	51	10·69	17	3·56
1883	5346	16,390	3063·97	2·90	85	15·90	23	5 24	1236	251·20	49	9 17	4	0 75
1884	5638	10,515	1855·02	1·81	45	7·98	44	7·60	718	127 35	8	1 42	1	0·18
1885	6918	6,866	992·48	0·91	49	7·08	33	4 77	41	5·93	—	—	1	0·14
1886	8475	4,874	577·46	0·52	63	7 43	52	6 14	3	0·35	—	—	—	—
1887	9016	3,954	434·22	0 40	55	6·04	56	6 15	—	—	—	—	—	—
1888	9184	3,679	400·59	0·40	65	7·08	48	9 15	—	—	—	—	—	—

THE EDUCATION OF NAVAL MEDICAL OFFICERS.

At the time of the establishment of the Medical Bureau in 1872 Dr. Wheeler, attached to the British Legation, was invited by the Naval Hospital to give lectures, both theoretical and practical. In 1872 Mr. William Anderson was specially invited from England to teach junior medical officers and students. In 1877 16 men were qualified and passed out of the school. These were the first graduates. Chief among them were the present Surgeon-Generals Yamamoto, Totsuka, Suzuki, and Kimura. The first three were educated, like myself, in this hospital for the higher course of study. (Surgeon-General Yamamoto served during the late war with Russia as the chief surgeon of Yokosuka Naval Station, Surgeon-General Totsuka as the chief surgeon of Sasebo Naval Station, where the majority of the wounded from the naval fights were treated, and Surgeon-General Suzuki as the chief medical officer of Togo's fleets.) However, later, during my absence in England, the levying of medical students was stopped and Mr. Anderson's duties came to an end It was then found that as the newly adopted medical officers could not understand a foreign language they could neither learn anything about naval and military hygiene in foreign lands nor could they follow the progress of medical science in general. Besides, they could not talk and associate with foreign medical officers, and on occasions when they went to foreign ports or lands they could not find out the sanitary conditions, especially those relative to the endemic and epidemic diseases of those ports.

Again this ignorance of foreign languages led to inconveniences in buying articles of food, drinking water, &c., and thus there was always fear of the invasion of infectious diseases through this channel. Moreover, the foreign language used by the Imperial University in teaching medicine was German, and I thought that the language most useful and important to our naval medical officers would be English. Finally, unless those who serve in the navy were able to keep up the general spirit characteristic of the sailors they could not work hand in hand with the fighting or deck officers and they would find many inconveniences in conducting sanitary affairs. Accordingly I insisted upon re-establishing the Naval Medical School and enlisted some students in 1881. Besides the full medical course the English language was taught as an extra subject and by 1894 80 students in all passed out as officers. But after that year (in 1893 I retired from active service, was placed in the reserve list, and became a member of the House of Peers) fresh students were not again enlisted and new medical officers were obtained from among those who studied in the Imperial University and specially licensed medical schools. Medical officers were also sent abroad to pursue further study in medical science. In 1872 Dr. S. Ono and Dr. K. Yoshida, in 1874 Dr. T. Ishigami, in 1875 Dr. K. Takaki, and in 1878 Dr. A. Saneyoshi were sent to England. Since then a number of medical officers was sent to Europe, chiefly to England and Germany. I entered the navy in 1872 and began to treat the sick and wounded. What at once attracted my notice was the large number of beri-beri patients and the numerous deaths resulting from it. And as this disease truly played havoc with the health of our navy and killed many, so as greatly to reduce our fighting strength, I turned my full effort towards finding its cause and treatment. By doing so, I meant to prevent the outbreak of this disease and to provide against unforeseen danger through ill-health in time of crisis in our Empire. In pursuing this purpose I met with many difficulties and passed through years of hard work.

The first time I heard of the fearful nature of beri-beri was 44 years ago. At that time guards were despatched by several Daimios to Kyoto to act as protectors of the Imperial Palace and my father being one of them stayed there for over a year. On his return he told me of the disease called beri-beri which killed many of these men. They attributed the cause to food and called a provision box the "beri-beri box." Later, in 1868, that is, in the year of the Meiji Revolution, I served for eight months in the army of Prince Shimadzu but did not see any beri-beri. As I said before, I entered the navy in 1872 and began to treat beri beri patients for the first time. Up to May, 1875 I had seen several hundreds of beri-beri cases at the Naval Hospital. In the summer several acute cases appeared daily. Often five or six cases had to be treated at the same time and attending officers had to work very hard both day and night. At that time the beri-beri patients constituted three fourths of the whole number of patients. Various forms of treatment were adopted: purgatives and digitalis for œdema, palpitation, &c.; strychnine, iron, &c., for numbness and paralysis; tincture of aconite for hyper-sensibility of muscles; and purgatives and venesection for acute cases. These forms of treatment were general and there was no definite opinion as regards the food.

Conditions being such, it became my fixed desire to discover the cause and treatment of beri-beri. But I thought that with my insufficient knowledge of medical science I could not possibly discover them, and from then on the desire to go abroad in order to fit me for attaining my object never left my thoughts even for a moment. At last, in June, 1875, the desire was fulfilled and I started for England. I reached London in July and entered St. Thomas's Hospital Medical School in October. After staying there for over five years I returned to Japan in November, 1880, and was made the director of the Tokyo Naval Hospital in December. Thus, I got an opportunity to treat beri-beri patients again. The general conditions on my return were exactly the same as before I went to England and with subsequent increase of sailors more beri-beri cases appeared. At times, when the disease was in full force, we found the hospital too small and often had to use neighbouring temples. Moreover, acute cases were many and medical officers had a very busy and hard time. Such conditions used to strike my heart cold whenever I came to think of the future of our Empire, because, if such a state of health went on without discovering the cause and treatment of beri-beri our navy would be of no use in time of need.

As a first step towards the cause and cure of this disease I began to note the localities and seasons and to examine sailors in ships, barracks, &c, and I obtained the following facts:—1. Beri-beri occurred mostly from the end of spring to summer, but it was not limited to the warm season, sometimes occurring during the severe cold of winter. 2. The occurrence of the disease varied in different ships, barracks, &c. 3. Even in the same ship it appeared in some stations, not in others, and was never certain. 4. It occurred from time to time without regard to the state of quarters or clothing. 5. I found out that although clothing, food, living, &c, were not quite the same in all stations, yet they were almost similar.

With these facts I could not easily discover the cause and I went on with further investigations with the following results:—1. As regards the class of patients in general, I found that sailors, soldiers, policemen, students, shop-boys, and so on, were those who suffered most. The upper class rarely became affected. 2 The people living in the same place suffered unequally—that is, some suffered and others did not. 3. Although it occurred mostly in large cities, like Tokyo, Osaka, and Kyoto, yet it sometimes appeared in smaller towns as well. Thus with such results and without discovering the cause of beri-beri the time quickly passed to the year 1882. In February of the year 1882 I was appointed the Vice-Director of the Naval Medical Bureau.

About that time it was found to be necessary to provide an extra medical officer besides the usual number on board the training ships going for long cruises on account of the abundance of beri-beri cases among the men during the voyage. In 1882 there was a critical state of affairs with Korea and three warships were sent to Ninsen (Chemulpo) and Saibutsu Bay. They stayed there only 40 days but owing to shortness of hands caused by the prevalence of beri beri among sailors the officers felt quite unfit for battle and it was a very anxious time for those in positions of responsibility because those three ships would have been of no fighting value in the critical moment. For example, in one of the ships 195 out of 330 were down with beri-beri. As a consequence I handed to the chief of the Naval Medical Bureau on June 24th, 1882, a memorandum describing the facts. Following this, in August, 1882, H.I M S. *Fuso*, in spite of anchoring off Shinagawa Bay, had to send half of its crew ashore in turns for the treatment of beri beri. Continuing still further. I examined the reports of the Tokyo and Yokohama naval hospitals for 1881 and found out that three-fourths of the patients had suffered from beri-beri.

In 1883 I received permission from the Minister of the Navy to examine the hygienic conditions of ships, barracks, schools, &c., belonging to the navy. I found that although working hours, clothing, dwelling-houses, &c., were similar everywhere, yet in food there was a great deal of difference. So I now asked the head of each sectional department to send me in the reports describing the details of food taken three times daily for a week. From this I discovered the following facts: 1. Nitrogenous substances contained in the food were not sufficient to make up for the amount of nitrogenous substances discharged from the body. 2. On the contrary, the food contained too much carbohydrates. If we now look into the table recognised by scientists showing the comparative amounts of nitrogen and carbon discharged daily by a fair-sized adult we shall see that carbon equals 310 grammes and nitrogen equals 20 grammes—i.e., nitrogen is to carbon as 1 is to 15·5. 3. The food taken by our sailor showed nitrogen 1 to carbon 17–32. 4. The greater the difference in these proportions the more beri-beri occurred, and the lesser the difference the less.

After obtaining these important facts I came to think that:—1. Beri-beri is caused by the disproportion of nitrogenous and non-nitrogenous elements (nitrogen and carbon) in food—that is, the amount of the nitrogenous was insufficient and that of the non-nitrogenous excessive. 2. The symptoms of beri-beri patients are really due to these causes and the good results obtained by purgatives are due to their powers in getting rid of the abundant carbohydrates. 3. The pathological changes occurring in nerves, muscles, &c., are the result of inability of the tissues to repair the waste owing to the insufficiency of nitrogenous substances in the food and the above changes are further aggravated by the presence of the large quantity of carbohydrates in the food.

In October, 1882, I submitted a proposal to the Minister of the Navy, the late Count Kawamura, the chief object of which was to change the old dietary system. When this proposal was put forward before a meeting there was a good deal of opposition. They said that the change was too radical and instanced the great disturbances caused by the change of diet in the Italian navy some years before. They also called attention to the new system of fixing the amount of food by quality and quantity instead of by monetary value as in the old. In spite of the difficulties caused by this opposition my opinion finally prevailed and the new system was adopted. But as we required a few months longer in order to examine and to fix the quality and quantity of food to be given, and as even some naval medical officers were holding the opposite view in heart, I took the opportunity of trying the new system on a certain number of beri-beri patients in the Tokyo Naval Hospital, comparing the result with that of the old system. The following is the table showing the increase in weight in the old and new diet on ten beri-beri patients, five on each diet during four weeks:—

Old Diet. *New Diet.*

1 momme = 58 grains Troy, or about 1 drachm

Initials of Patients

	F—— K——*	U—— K——.*
	Momme	Momme.
Before experiment	13,000 (101 lb.)	12,700 (98½ lb.)
1st week	13,020 (increase 20=2½ oz.)	12,800 (increase 100=¾ lb.)
2nd week	13,040 (,, 20=2½ oz.)	12,800
3rd week	13,380 (,, 340=2½ lb.)	13,160 (increase 360=3 lb.)
4th week	13,440 (,, 60=7 oz.)	13,260 (,, 100=¾ lb.)
	Total increase 440=3½ lb.	Total increase 560=4½ lb.

	B—— I——*	T—— K——.*
	Momme.	Momme.
Before experiment	11,680	14,380
1st week	11,500 (decrease 180)	14,300 (decrease 80)
2nd week	11,900 (increase 450)	14,580 (increase 280)
3rd week	12,140 (,, 160)	14,660 (,, 80)
4th week	12,240 (,, 100)	14,680
	Total increase 560=4½ lb.	Total increase 280=2 lb.

	Y—— K——.*	Y—— C——*
	Momme.	Momme.
Before experiment	11,160	13,320
1st week	11,100	13,220 (decrease 100)
2nd week	10,860 (decrease 240)	13,280 (increase 60)
3rd week	10,920 (increase 60)	13,360 (,, 80)
4th week	10,950 (,, 40)	13,640 (,, 280)
	Total decrease 140=1 lb.	Total increase 320=2½ lb.

	Y—— K——†	G—— M——.†
	Momme.	Momme.
Before experiment	14,960	14,360
1st week	15,280 (increase 320)	14,320 (decrease 40)
2nd week	15,200 (decrease 80)	14,220 (,, 100)
3rd week	15,300 (increase 100)	14,270 (increase 50)
4th week	15,300	14,310 (,, 40)
	Total increase 340=2 lb.	Total decrease 60=½ lb.

	T—— K——.†	T—— W——.†
	Momme.	Momme.
Before experiment	13,500	12,740
1st week	13,340 (decrease 160)	12,660 (decrease 80)
2nd week	13,230 (,, 110)	12,500 (,, 160)
3rd week	13,180 (,, 50)	12,500
4th week	13,150 (,, 30)	12,440 (,, 60)
	Total decrease 350=2¼ lb.	Total decrease 300=2⅙ lb.

New Diet.

Increased weight of 5 experimental patients ... 1160 momme = 9 lb.
Decreased ,, 5 ,, ,, ... 360 ,, = 3 lb.

The difference between the two is the increase of 800 momme = 6 lb.—that is, each person increased 160 momme = 1·2 lb.

Old Diet.

Increased weight of 5 experimental patients ... 1340 momme = 10·38 lb.
Decreased ,, 5 ,, ,, ... 490 ,, = 3·8 lb.

The difference is the increase of 850 momme = 6½ lb.—that is, each patient increased 170 momme = 1·3 lb.

In this table those marked (*) show chronic kakke; those marked (†) show subacute kakke.

The new system diet for the first two weeks is shown in Table II.; that for the second two weeks in Table III. Table IV. shows the old diet. Of the five patients who received the new diet all were discharged with complete cure. Of the five patients who remained on the old diet four were cured and discharged from the hospital and one changed into pulmonary disease.

TABLE II.—*Showing the Daily Ration supplied to Sailors during Stay in Port.*

Breakfast.

—	Bread.	Biscuit.	Butter.	Cream.	Sugar.	Tea.
	Momme.	Momme.	Momme.	Momme	Momme.	Momme.
Sunday ...	60 (7½ oz.)	—	3 (2 oz.)	2 (¼ oz.)	4 (½ oz.)	1 (⅛ oz.)
Monday ...	—	50 (6¼ oz.)	3	2	4	1
Tuesday ..	60	—	3	2	4	1
Wednesday	—	50	3	2	4	1
Thursday ...	60	—	3	2	4	1
Friday	—	50	3	2	4	1
Saturday .	60	—	3	2	4	1
Sunday ...	—	50	3	2	4	1
Monday ...	60	—	3	2	4	1
Tuesday ...	—	50	3	2	4	1
Wednesday	60	—	3	2	4	1
Thursday ...	—	50	3	2	4	1
Friday	60	—	3	2	4	1
Saturday ...	—	50	3	2	4	1

1 momme = 58 grains Troy.

Luncheon.

—	Rice.	Fresh beef with bone.	Tinned beef.	Vegetables.
	Momme.	Momme.	Momme.	Momme.
Sunday	50 (6¼ oz.)	60 (7½ oz.)	—	25 (3⅛ oz.)
Monday ..	50	—	60 (7½ oz.)	25
Tuesday	50	60	—	25
Wednesday	50	—	60	25
Thursday	50	60	—	25
Friday	50	—	60	25
Saturday	50	60	—	25
Sunday	50	—	60	25
Monday	50	60	—	25
Tuesday	50	—	60	25
Wednesday	50	60	—	25
Thursday	50	—	60	25
Friday	50	60	—	25
Saturday	50	—	60	25

Dinner.

—	Rice.	Fresh beef with bone.	Fish.	Bean (Pisum).	Vegetable.	Japanese wine.
	Momme.	Momme.	Mommo.	Mommo.	Momme.	Go.
Sunday ...	50 (6¼ oz.)	40 (5 oz.)	—	—	25 (3¼ oz)	2 (10 oz.)
Monday ...	50	—	40 (5 oz.)	10 (1¼ oz.)	25	2
Tuesday ...	50	40	—	—	25	2
Wednesday	50	—	40	10	25	2
Thursday ...	50	40	—	—	25	2
Friday ...	50	—	40	10	25	2
Saturday ...	50	40	—	—	25	2
Sunday ...	50	—	40	10	25	2
Monday ...	50	40	—	—	25	2
Tuesday ...	50	—	40	10	25	2
Wednesday	50	40	—	—	25	2
Thursday ...	50	—	40	10	25	2
Friday ...	50	40	—	—	25	2
Saturday ...	50	—	40	10	25	2

1 *go* = 10·931 cubic inches.

TABLE III.—*Showing the Daily Ration supplied to Sailors at Sea.*

Breakfast.

—	Bread.	Biscuit.	Butter.	Cream.	Sugar.	Tea.
	Momme.	Momme.	Momme.	Momme.	Momme.	Momme.
Sunday ...	60 (7½ oz.)	—	3 (⅜ oz.)	2 (¼ oz)	4 (½ oz.)	1 (⅛ oz.)
Monday ...	—	50 (6¼ oz.)	3	2	4	1
Tuesday ...	60	—	3	2	4	1
Wednesday	—	50	3	2	4	1
Thursday ...	60	—	3	2	4	1
Friday	—	50	3	2	4	1
Saturday ...	60	—	3	2	4	1
Sunday ...	—	50	3	2	4	1
Monday ...	60	—	3	2	4	1
Tuesday ...	—	50	3	2	4	1
Wednesday	60	—	3	2	4	1
Thursday ...	—	50	3	2	4	1
Friday	60	—	3	2	4	1
Saturday ...	—	50	3	2	4	1

Luncheon.

—	Rice (momme.)	Preserved Beef (momme).	Preserved pork (momme).	Corned beef (momme).	Vegetable (momme).	(Pisum) Bean (momme).	Indian corn (momme)
Sunday	50 (6¼ oz.)	40 (5 oz.)	—	—	10 (1¼ oz.)	—	—
Monday	50	—	40 (5 oz.)	—	—	25 (3⅛ oz.)	—
Tuesday	50	—	—	40	—	—	30 (3¾ oz.)
Wednesday	50	—	40	—	—	25	—
Thursday	50	40	—	—	10	—	—
Friday	50	—	40	—	—	25	—
Saturday	50	—	—	40	—	—	30
Sunday	50	—	40	—	—	25	—
Monday	50	40	—	—	—	—	—
Tuesday	50	—	40	—	—	25	—
Wednesday	50	—	—	40	—	—	30
Thursday	50	—	40	—	—	25	—
Friday	50	40	—	—	—	—	—
Saturday	50	—	40	—	—	25	—

Dinner.

—	Rice (momme).	Powdered flour (momme).	Potato (momme).	Vegetable (momme).	Canned beef (momme).	Canned beef (momme).	Canned pork (momme).	Canned fish (momme).	Biscuit (momme).	Japanese wine (sake).
Sunday	—	50	—	10‡	40§	—	—	—	—	2go¶
Monday	50*	—	—	10	—	—	40	—	—	2 „
Tuesday	30†	—	30	—	—	20‖	—	20	20	—
Wednesday	50	—	—	10	—	—	40	—	—	2 „
Thursday	—	50	—	10	40	—	—	—	—	2 „
Friday	50	—	—	10	—	—	40	—	—	2 „
Saturday	30	—	30	—	—	20	—	20	20	—
Sunday	50	—	—	10	—	—	40	—	—	2 „
Monday	—	50	—	10	40	—	—	—	—	2 „
Tuesday	50	—	—	10	—	—	40	—	—	2 „
Wednesday	30	—	30	—	—	20	—	20	20	—
Thursday	50	—	—	10	—	—	40	—	—	2 „
Friday	—	50	—	10	40	—	—	—	—	2 „
Saturday	50	—	—	10	—	—	40	—	—	2 „

* = 6¼ oz. † = 3¾ oz. ‡ = 1¼ oz. § = 5 oz. ‖ = 2½ oz. ¶ = 10 oz.

TABLE IV.—*Showing the Old System of Diet for Hospital Patient.*

	Breakfast.	*Luncheon.*	*Dinner.*
First class	Chief dish. Vegetables, two kinds, eggs, or peas, or beans, or sea-weeds, or eer (fish). Pickle. Plums (2). Boiled rice (rice gruel sometimes substituted).	Dish. Boiled fish or fried fish: 25 momme (3⅛ oz.). Small dish (cooked white bean). Boiled rice.	Dish. Chicken or beef: 25 momme (3⅛ oz.). Vegetables. Small dish (cooked white bean). Boiled rice.
Second class	Bread (¼ pound). Half-boiled eggs (2). Sugar: 4 momme (½ oz.). Salt.	Bread (vermicelli, &c.).	Dish. Chicken or beef: 15 momme (1⅞ oz.). Vegetables. Small dish. Plums (2). Rice gruel (100 mommes (12½ oz.).
Third class	Soup. Vegetables (2 kinds). Small dish. Pickled plums (2). Boiled rice.	Dish. Vegetable (1 to 3 kinds). Small dish (potatoes, Indian corn). Boiled rice.	Dish. Beef or fish or fried eggs. Vegetables. Small dish. Boiled white bean. Boiled rice.

As the result of these experiments it was found necessary to spend 36 sen 1 rin (about 8¾*d.*) daily instead of 18 sen (about 4¼*d.*) under the old system—that is, more than double. In December of the same year an order was issued to make monthly statistics of the body-weight of each person in the navy in order to ascertain the necessary amount of food for officers and men. By this means we got the following comparative scale of body-weight for five years from 1884 to 1888.

In looking over Table V. you will find that the body weight is highest during the months of February, March, and April, and lowest in August and September. Therefore after 1889 the weights were taken only in March and September every year.

During ten years from 1884 to 1893 there was more or less difference yearly, but, taken as a whole, the weight had increased, that is, nearly eight pounds per person. From 1894 to 1903, for ten years, there was not much change in weight, and I think that shows the sufficiency of food supplied. During the former ten years the number of general diseases decreased in accordance with the yearly increase of weight. The last ten years showed not much change in weight and number of diseases. On Sept. 26th, 1883, I for the first time spoke on the cause of beri-beri before the meeting of the Japan Society of Hygiene and expressed my view as to the cause of the disease. On Oct. 5th, 1883, I was promoted to be Director of the Medical Bureau. Soon afterwards I asked the Minister of the Navy to have a special committee of investigation on the cause of the occurrence of the almost unprecedented number of cases of beri-beri on board the training ship *Riujo*, which left Shinagawa on Dec. 19th, 1882, and returned to Shinagawa on Oct. 15th, 1883, after a voyage of 271 days to New Zealand, South America, and Hawaii. My proposal was adopted and a special committee consisting of the following members was formed: Rear Admiral Maki (Chairman), Surgeon-General Takaki, Captain Isobe, Commander Kunitomo, Fleet-Surgeon Kagami, Fleet-Surgeon Toyozumi, Paymaster Ijichi, Paymaster Kurihara, Secretary Iwamura, Lieutenant Serada, and Clerks Matsumura, Sakamoto, and Mishina.

The first meeting of the committee was held on Nov. 12th, 1883. The chairman, Admiral Maki, explained the object of this committee and I was appointed the chief of the investigation board. After this the meeting was held five times a week till April 11th, 1884, and altogether the committee met 79 times. During that time 76 records were made, comprising 10,862 questions and 10,400 answers. As a result I, with the assistance of Staff Surgeon Toyozumi, compiled ten reports concerning (1) patients, (2) clothing, (3) bedding,

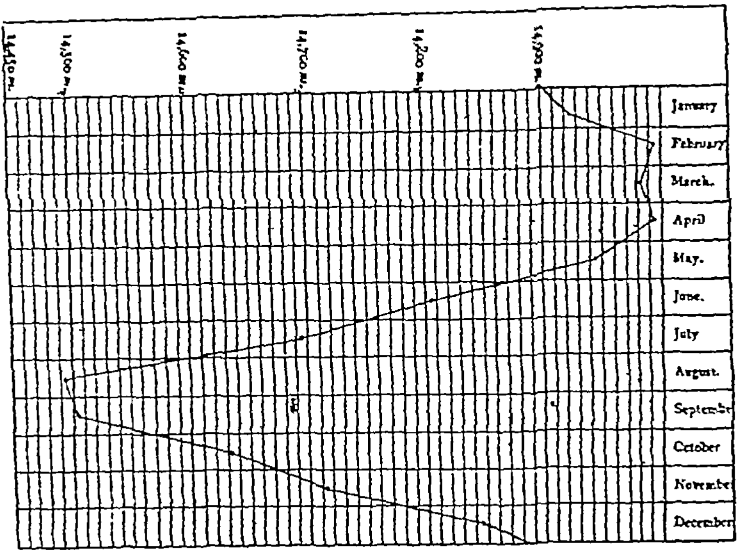
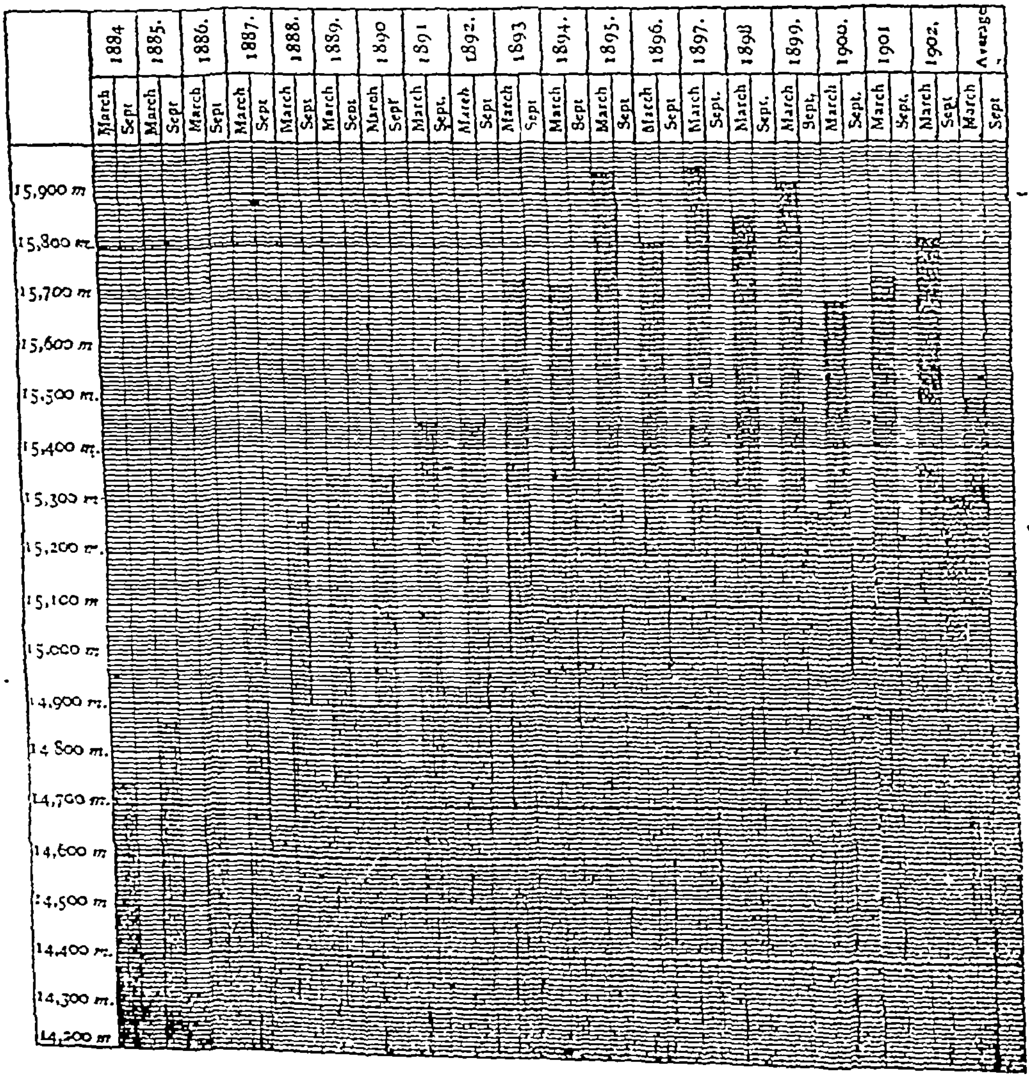


TABLE V.—*Average Monthly Body-weight of each Person from 1884 to 1888.*

TABLE VI.—COMPARATIVE SCALE OF BODY-WEIGHT IN MARCH AND SEPTEMBER DURING 19 YEARS.



(4) food, (5) drink, (6) housing, (7) labour, (8) rest, (9) voyage, (10) anchorage, (11) weather and climate, and (12) conclusion. Besides, we made up six tables on diseases, 32 tables on food, one each on drink, climate, weather, and temperature, and also tables on food supplied daily to petty officers, sailors, students, gun-room officers, and officers. Finally, the committee met to discuss the results of investigations on Feb. 12th, 1885.

In November, 1883, I was informed of the sailing of the training-ship *Tsukuba* in a short time and at once arranged to utilise this opportunity of testing the new system of diet by making her go the same route as that of the *Riujo*. So before the sailing of the *Tsukuba* on Nov. 24th, 1883, I demanded the immediate practical application of the new diet and in consequence the Minister of the Navy issued the order to change the diet throughout the navy on Nov. 29th. Also on Nov. 26th, 1883, I proposed the necessity of the Medical Bureau having the reports on food supplied in ships, barracks, schools, &c., every month, and in the following December the Minister ordered this to be done. These reports have continued up to the present day.

TABLE VII.—*Showing the Average Daily Amount of Food for Each Person during 19 Years from 1884 to 1902.*

Year.	Amount of food for each person per day.	Year.	Amount of food for each person per day.
	Momme. Ounces.		Momme. Ounces.
1884	606 63 = 75·83	1894	416·08 = 52 01
1885	625·57 = 78·19	1895	406·70 = 50·83
1886	644·62 = 80·51	1896	384·90 = 48·11
1887	563·58 = 70·44	1897	391·29 = 48·91
1888	551·13 = 68 89	1898	406·75 = 50·84
1889	596·06 = 74·50	1899	408·01 = 51·00
1890	443 01 = 55·37	1900	415·45 = 51·93
1891	407·02 = 50·87	1901	460·60 = 57·57
1892	399 56 = 49·94	1902	438·55 = 54·82
1893	386·41 = 48·30		

The decrease of the amount of food since the year 1890 is due to the alteration of the Food Regulations in April of that year and also to the fact that, according to the revised regulations, when members of a table company exceed five in number they are allowed to receive per every five members (this number was altered to ten in 1898 and resulted in a little increase in the amount of food since that year) one man's allotment in money, with which they can buy whatever food they like, and such food is excluded from the Table. Some increase of the amount of food from 1900 is also due to the alteration of the Food Regulations from May of the same year.

TABLE VIII.—*Showing the Amount of each Nutritive Element in the Average Daily Amount of Food*

Month.	Proteids.	Fats.	Carbo-hydrates.	Total.	Ratio of carbon to 1 of nitrogen.
	Momme. Ounces.	Momme. Ounces.	Momme. Ounces.	Momme. Ounces.	
January ...	38·93 = 4·86	8·45 = 1 05	160·40 = 20 05	207·78 = 25·97	16
February	38 21 = 4·77	8·52 = 1·06	160·19 = 20·02	206·92 = 25·85	16
March ...	38 00 = 4·75	8·54 = 1·04	159 88 = 19 98	206 22 = 25 77	16
April ...	39·08 = 4 88	8 89 = 1·11	161 72 = 20·21	209 69 = 26 20	16
May	37 91 = 4 74	8 33 = 1·04	170 89 = 21·23	217·18 = 27·01	17
June... ...	39·19 = 4·89	8·56 = 1·07	163·95 = 20 49	211·70 = 26·35	16
July	38·79 = 4·85	8·67 = 1·08	160 74 = 20·09	208 20 = 25·92	16
August ...	37·85 = 4 73	8·58 = 1·07	167·72 = 19·91	204·15 = 25 51	16
September	39 39 = 4 92	9·11 = 1·14	163·87 = 20·48	212 37 = 26·54	16
October ...	38 41 = 4·80	8·68 = 1·08	160·83 = 20·10	207 92 = 25·98	16
November	38·65 = 4·83	8·39 = 1·05	162 74 = 20 34	209 78 = 26 22	16
December	38·85 = 4·85	8·54 1·07	162·96 = 20·37	210·35 = 26·29	16
Average ...	38·61 = 4·82	8 59 1 07	162·16 20 27	209 36 = 26 16	16

TABLE IX.—*Amount of Each Nutritive Element in the Average Daily Amount of Food for the Period of 19 Years, from 1884 to 1902.*

Year.	Proteids.	Fats.	Carbo-hydrates.	Total.	Ratio of carbon to 1 of nitrogen.
	Momme. Ounces.	Momme. Ounces.	Momme. Ounces.	Momme.	
1884	52·17 = 6·52	11·67 = 1·43	206·16 = 25·77	270·00	16
1885	52·43 = 6·80	12·13 = 1·50	211·85 = 26 49	276·51	17
1886	56 73 = 7 09	12 86 = 1·60	204 66 = 25·65	274·25	15
1887	49 70 = 6·21	12 79 = 1·60	185·19 = 23·15	247·68	16
1888	48·57 = 6·07	11·78 = 1 47	177·38 = 22 17	237·73	15
1889	51·46 = 6·43	11·99 = 1 49	191·48 = 23·93	254·93	16
1890	42 44 = 5 30	7·75 = 0·34	147·44 = 18·43	197·63	15
1891	37 42 = 4·67	6·66 = 0·83	141·33 = 17 66	185 41	16
1892	38 74 = 4·84	7·33 = 0·91	144 79 = 18·10	190·86	15
1893	39 37 = 4 92	7·43 = 0·93	146·52 = 18·31	193·32	15
1894	42·23 = 5·28	8·04 = 1·06	160·79 = 20·10	211·06	15
1895	41·78 = 5 22	8·08 = 1 01	154·07 = 19 26	203 93	14
1896	39·53 = 4·94	7 64 = 0·95	145·52 = 18·19	192·69	14
1897	38·93 = 4·86	7·39 = 0·92	144·18 = 18·02	190 50	14
1898	45·37 = 5·67	8·05 = 1·00	143·40 = 17·92	196·82	17
1899	47·49 = 5 93	9 33 = 1·16	159·94 = 19 99	216 75	15
1900	48 75 = 6·09	9·79 = 1·21	158 24 = 19·78	216·78	15
1901	52·66 = 6·58	9 03 = 1·13	156 90 = 19·61	218 59	14
1902	38 61 = 4 82	8 59 = 1·07	162·16 = 20·26	209·36	16

The reason of decrease in the amount of nutritive elements since the year 1890 and that of some increase in it since the year 1898 is due to that stated in the note appended to Table VII. The present scale of diet supplied to the sailors is as follows:—

TABLE X.—*Average Daily Amount of Food for Each Person.*

Article.	Amount.	Article.	Amount.
	Momme. Ounces		Momme. Ounces.
Biscuit	8·99 = 1·12	Vegetables ...	112 12 = 14·01
Bread	52·97 = 6 62	Tea...	0·41 = 0 05
Preserved meat	6·45 = 0 80	Baked barley	0 76 = 0 09
Preserved fish	6·50 = 0·81	Sugar	9 91 = 1·24
Meat (fresh)...	53 98 = 6 74	Shoyu (a kind of soy) ...	19 89 = 2 48
Fish (fresh) ...	19 60 = 2·42	Vinegar ...	1·52 = 0·19
Rice	100·49 = 12·56	Oil	0·54 = 0 07
Cracked wheat... ...	34·26 = 4 28	Salt	1·83 = 0·23
Beans	3 44 = 0·43	Fat...	1·30 = 0·16
Wheat flour...	2·63 = 0·33	Total ...	438·55 = 54 82
Dry vegetables... ...	0 96 = 0·12		

CHELSEA CLINICAL SOCIETY.—The ninth annual dinner of the Chelsea Clinical Society was held on May 3rd, under the chairmanship of the President of the society, Dr. J. B. Ball, at the Criterion Restaurant, Piccadilly, London. The feature of the evening was the brevity of the speeches and this unusual occurrence accounted for the great success of this dinner. The loyal toasts having been duly honoured the chairman proposed the "Chelsea Clinical Society," and after this had been acknowledged by Mr. A. F. Penny Dr. T. Vincent Dickinson promptly rose and submitted the toast of "The Visitors and Kindred Societies." This was responded to by Mr. C. R. B. Keetley and also by the Mayor of Chelsea. Dr. R. J. Collie in a few words then gave the toast of "The President and Officers of the Society," and the chairman in responding expressed in generous terms the thanks of the society for the services rendered by the honorary treasurer, Dr. A. E. Cooper, and the honorary secretary, Mr. A. A. Cooper. The evening was enlivened by some excellent music and dramatic recitals.

The Goulstonian Lectures

ON

AUTO-INTOXICATION: ITS RELATION TO CERTAIN DISTURBANCES OF BLOOD PRESSURE.

Delivered before the Royal College of Physicians of London on March 13th, 15th, and 20th, 1906,

BY H. BATTY SHAW, M.D. LOND.,
F.R.C.P. LOND.,

LECTURER IN THERAPEUTICS, UNIVERSITY COLLEGE, LONDON, ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

LECTURE II.[1]

Delivered on March 15th

MR. PRESIDENT AND GENTLEMEN,—In my first lecture I drew attention to three points: (1) that in 12 out of 68 clinical cases hypertension was observed and that there was with one exception proof that the kidneys were affected in these cases; (2) that the explanation of hypertension in renal disease was unsatisfactory—a toxic cause had been invoked but not demonstrated; and (3) that experimentally I had shown that a rise of blood pressure occurred 18 times out of 19 in which kidney extract was used and that such frequency of a pressor effect was not noticed after the injection of extracts of organs other than the suprarenals—moreover, the pressor effect produced by kidney extract was a prolonged one. At this stage it was necessary to reconsider the statement made by Swale Vincent and Sheen that they had been able to *some extent* to corroborate the observations of Tigerstedt and Bergman,[2] inasmuch as they had found distinct evidence of the existence of a pressor substance in the kidney. The only figure given by Swale Vincent and Sheen in support of their findings shows a comparatively small rise and a small fall with a return to a level a little higher than the original height. In traces taken from my own series of animals it will be seen that there is often a *fall* and then the pressure rises and is maintained for some time. The different conditions of the animals must, however, be remembered. Swale Vincent and Sheen experimented on a dog, using A.C.E. mixture and presumably artificial respiration as well as morphine; whereas in my own experiments cats were used, anæsthetised by means of ether with spontaneous respiration, and the effect, as already mentioned, is certainly much more striking.

Turning to Tigerstedt and Bergman's paper, it is found that these two workers have ten years ago established results of a very different character from those given by Swale Vincent and Sheen, and I think that the results obtained in my small series of cats are in close agreement with the results obtained by Tigerstedt and Bergman, though in little else do I presume to compare my observations with those made by these workers. They had set themselves the task of elucidating the relationship between kidney and heart, being influenced by the teaching of Brown-Séquard on "internal secretion" and by the association existing between certain renal and cardiac diseases. Their first experiment was rewarded by an interesting result. Freshly excised rabbit's kidney was rubbed up with glass powder and physiological salt solution; the fluid obtained was then filtered and a few cubic centimetres were injected intravenously into rabbits. In a short time a well-marked and apparently protracted increase of arterial pressure was observed. In the first experiment within 80 seconds of the injection of five cubic centimetres of the extract the maximal pressure had risen from 70-65 millimetres before injection to 102 millimetres—i.e., an increase of pressure of about 50 per cent. had ensued; in a second experiment the increase after the injection of four cubic centimetres was 25 per cent. within 100 seconds; in the third experiment there was an increase of 18 per cent. in 60 seconds. The investigation was further elaborated. They found that extracts which were prepared by boiling the fresh kidney with water or extracts prepared from the boiled kidney by means of cold water were inactive; moreover, by boiling or heating the fresh extract the pressor effect was destroyed. An important discovery was that alcohol, either absolute or of 50 per cent. strength, was quite unable to extract from the preparation any active material. They were also able occasionally, but not always, to demonstrate that diluted glycerine extract had a definite pressor effect; the failures to produce a rise of pressure were attributed to the well-known depressor effect of the glycerine and in one experiment it was thought that the first injection of glycerine extract had produced a fall only. A second dose was given before the true effect of the first one had shown itself and after 140 seconds the pressor effect of the second dose was found to have developed so that the blood pressure was 16 per cent. higher than originally.

One of the objections to the use of the extract which has been injected into the series of cats already referred to is that the material injected was a coarse emulsion and that until this emulsion could be made to yield a soluble substance capable of exerting a pressor effect the results obtained could not be quite convincing. Tigerstedt and Bergman have, *however, succeeded* in obtaining a solution of the active material which can be quite freed from any granular contents. The kidney is rubbed up with absolute alcohol and filtered; the precipitate is dried in the air at room temperature and is then extracted with salt solution. One to two cubic centimetres of this extract exert as great a pressor effect as the fresh preparation; the active substance is not destroyed by alcohol. They speak of this extract as "Extract A." If it is boiled or heated in a water bath this extract loses its properties, but exposure to a temperature of from 54° to 56° C. does not apparently disturb the pressor effect. The pressor substance, to which these workers give the name of "renin," is not *dialysable.* From these various reactions it may be concluded that renin is a substance *sui generis* and that the effects produced on the blood pressure are not due to any of the crystallisable substances which are excreted in the urine. [Riva-Rocci had also failed to demonstrate a pressor effect in any constituent of the urine.] A further interesting observation was made by these workers that "renin" was present only in extracts made from the *cortex of the kidney*, and not at all or only to a slight extent in extracts of the *medulla*. A crucial test was applied by these workers by injecting blood derived from the renal vein, but, as they explain, it is hardly to be expected that by injecting two cubic centimetres of venous blood derived from the kidney, which in comparison with the extract they had prepared would contain a much smaller amount of renin, much effect would be obtained. Moreover, the blood supply to the kidney is so rich that the percentage amount of renin in the venous blood would again be considerably less than in the extract prepared from the kidney substance. These same remarks may be applied to explain my own failure to detect in the blood of patients suffering from high blood pressure any pressor quality when injected into cats with undamaged kidneys. They therefore first removed the kidneys from two rabbits one or two days before injection, thereby as it were robbing the blood of the animal of its usual amount of renin. They then injected two cubic centimetres of renal blood derived from the renal vein and were able to establish a rise of pressure of 25 per cent. in one case a minute after the injection and of 13 per cent. in the second experiment two minutes and 50 seconds after injection. From the above results Tigerstedt and Bergman suggest that *renin actually passes from the kidneys into the blood; that in the kidneys a substance is formed which under normal conditions may pass from the kidney into the blood by a process of internal secretion, and may exert a pressor effect.* A preparation of fresh extract made by rubbing up fresh kidney substance with fresh defibrinated blood was also found to be active. These two workers give a long list of all the experiments they carried out in which the nervous system was left intact and excision of the kidney had not been carried out in the animal into which the injections were made. The list includes 23 animals (rabbits) and the number of injections was 53 in all; on 50 occasions the effect on the rise of blood pressure was positive and in three cases only there was a negative effect; but it is to be observed that in each of these three cases injections had already been made with positive effects and it is known that the effects of the latter injections are frequently less marked than earlier ones. A remarkable feature of the effects of injection is the long time during which the effects last. After a somewhat rapid and transitory fall of pressure the arterial pressure begins to rise and reaches gradually a maximum within an interval of from one to two minutes. The blood pressure then sinks slowly but in certain circumstances remains for 20 minutes at a higher level than before the injection. The degree and duration of the rise are apparently independent of the amount of extract injected, except in those cases in which the amount of injection is very small, when it will be found that the rise is less than in doses which are a little larger. In repeated doses the extract exerts in some cases an effect as large as in the first injections, but in other cases, and apparently in most, the influence of the second dose is less than is that of the first one. The absolute rise of pressure in the experiments in which a watery extract was used is in general greater according as the initial pressure of the animal is lower. The experiments with "Extract A," however, show in this particular less regular effects and Tigerstedt and Bergman explain this on the ground that the "Extract A" is not always equally rich in renin and that various individual animals vary in their reaction to its effects. These two authors then proceed to analyse the effects produced. They found that the changes of pulse frequency after injection of renin are not great and it may be concluded that the pressor effects exerted by renin cannot be dependent on alterations in pulse-rate. The pulse changes are much more likely results rather than causes of the rise of pressure. Division of the cervical nerves did not interfere with the effects met with after injection of the "Extract A." Nor does it appear likely that the renin acts upon the heart, for they found that preparations which in an intact animal produce the usual effects are quite unable to show any effect on the isolated surviving rabbit's heart. Nor was it possible to attribute the effects to changes in the chief vaso-motor centre, for the effects were present when the cervical cord was cut and also when the cord was cut at the level of the fourth dorsal vertebra. Nor were the effects due entirely to action on the spinal vaso-motor centres, for destruction of the whole spinal cord by means of a sound failed to abolish the effects completely; they could not, however, exclude some possible effects due to action on the vaso-motor centres of the spinal cord, and this was shown by the fact that when both vagi were cut and an injection of six cubic centimetres of "Extract A" had been made stimulation of the right depressor nerve caused a fall of pressure. This same experiment also showed that the effect was not upon the musculature of the blood-vessels and it will be remembered that Oliver and Schäfer used this mode of experimentation to prove that extract of suprarenal substance did act on the musculature of vessels. The net result of these observations on the analysis of the effects produced by injection of "Extract A" was to show that fresh renal extracts produce rises of pressure by acting on the peripheral nerve centres as well as possibly on the spinal cord.

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[1] Lecture I. was published in THE LANCET of May 12th, 1906, p. 12-5.

[2] Skandinavisches Archiv für Physiologie, 1898, Band viii., S. 223.

Finally, Tigerstedt and Bergman consider the question of the fate of renin when it enters the circulation normally. As already stated, under favourable conditions the rise of pressure in intact animals lasts almost 20 minutes. If, however, the kidneys are removed the pressure is raised for a very considerably longer period of time but eventually even in these cases its effect wanes. From this it may be concluded that renin is got rid of from the body partly by the kidneys but also that it is partially destroyed by the tissues or is possibly got rid of by the bowel.

I have quoted the observations made by these two workers because I think their discovery is so important to pathology not only in the study of disturbed action of the kidneys but in the study of the subject of auto-intoxication in general. So careful and so exacting have they been in their work that it is difficult to offer criticisms which would be of great weight. There are some points, however, upon which we require more information. The first is that there is no mention whatever of the anæsthetic used—whether it was of the nature of chloroform or ether or of morphine. It is therefore possible that the same criticism may be offered upon their work as upon my own—viz., that the effects were not obtained in an animal when placed under the most favourable conditions for the investigation of problems connected with the vaso-motor system. The writers expressly state that in the 23 cases in which 50 successful injections were made—*i.e.*, were followed by a rise of pressure—the nervous system was intact; presumably atropine was therefore not administered. Another point is one which is of great importance—they apparently had no failures. In one case already referred to in my own list it will be remembered that the animal failed to respond to any injection and in another respiration was so faulty without injection that the experiment had to be abandoned. In another case the injection of renal extract was followed by a very notable fall of 20 millimetres which lasted 55 seconds; in the light of Tigerstedt and Bergman's work it may be that this was due to some other influence than that exerted by the renal extract or that some change had taken place in the extract, especially as an earlier injection of the same extract in the same animal had given a rise with a maximum of 30 millimetres lasting five minutes and 50 seconds. It seemed as well, however, to endeavour to secure results under the most exacting physiological conditions possible and so a limited number of further experiments were carried out, using renal extract for injection purposes prior to the injection of any other preparation.

The analysis of these results shows that on three occasions when the experiment was carried out, as in my first series, under the influence of ether only with spontaneous respiration a fall succeeded the injection of renal extract. A fall lasted four minutes and 16 seconds and the lowest maximum pressure was four millimetres below the original in Experiment 37. In Experiment 39 the fall was a very great one and reached 50 millimetres, lasting 14 minutes at least. In Experiment 42 a similar fall of 50 millimetres occurred, lasting one minute 51 seconds; the animal used in this experiment must, however, have been under abnormal conditions, for the division of both vagi was not followed by a rise of blood pressure; variations of the distribution of inhibitory fibres in the vagi of the cat are known. In Experiment 38 ether anæsthesia was carried out as well as artificial respiration; the very anomalous result was observed that the first injection was followed by an unusual fall of 75 millimetres and the second by a rise of one millimetre.

Turning now to the results obtained when anæsthesia was procured by the administration of ether and morphine, respiration being carried out artificially, a rise of pressure followed the injection of renal extract on four occasions (Experiments 36, 38B, 41, and 42B). No rise and even a fall occurred in three experiments (Experiments 38B, second injection, 40A, and 41, second injection).

Another condition under which the injection was made was to administer ether and morphine or curari, to carry out artificial respiration, and to cut the vagi. A rise of pressure followed the injection of renal extract in three cases (Experiments 35, 38C, and 39B). A fall occurred in two cases (Experiments 38A and 40B).

These results are obviously unsatisfactory, for although the majority give some support to the view that there is a pressor substance extractable from the kidney, a good proportion of cases show the reverse. It may, however, be conceded that the much more uniform effects produced when the animal is intact and adequate anæsthetisation has been produced by ether give a better idea of the effects produced by renal substance than when various operative measures, &c., have been carried out as well. Considering the frequency with which Tigerstedt and Bergman obtained pressor results with their preparation "Extract A," it may be that further experiments carried out with this preparation under conditions of a more exacting nature—for example, anæsthesia under ether or chloroform and morphine—will give more uniform results. As already stated the two workers referred to do not say what anæsthetic was used and it is not very clear how they prepared "Extract A," for the amount of absolute alcohol added to the original kidney substance is not mentioned nor is reference made to the amount of saline solution with which the dried residue was rubbed up; it was surmised that for the preparation of "Extract A" five times as many cubic centimetres of absolute alcohol should be added to the kidney pulp as there were grammes of that substance. The residue left after the removal of the alcohol in a desiccator was rubbed up with a 1 in 3 saline solution.

Pressor substances have been demonstrated in the suprarenal medulla and in the posterior lobe of the pituitary body and there has been abundant confirmation of the results. The pressor effect of kidney substance was obtained ten years ago by Tigerstedt and Bergman and the results have been quoted so largely by me because the work is so exhaustive nd thorough. Oliver[3] has published his results of the action f animal extracts on peripheral vessels. He made observaons on the mesenteric vessels of the frog before and after he application of normal saline solution used as a control nd normal saline solution containing 1 per cent. of the xtract of an organ dried at 38° C., the temperature being he same for both solutions. Any change of calibre was ccepted as the effect of the extract when it exceeded he normal variations and when it was practically *imnediate*, was invariable, lasted a certain fairly uniform time nd was succeeded by restoration of calibre. Observations were made with the brain plugged and with the brain and ord destroyed. Oliver found no *invariable* change given by the use of extracts of liver, pancreas, kidney, or brain; a moderate constrictive effect, however, was obtained so far as the experiments had been carried out with extracts of spleen, testis, and pituitary gland. Suprarenal extract was found to produce a marked constriction which persisted for from 30 to 60 minutes.

The work of Tigerstedt and Bergman has, so far as I can gather, not been repeated except in the particular of the pressor effect of blood drawn from the renal vein. Tigerstedt and Bergman carried out but two experiments with the blood drawn from the renal vein of a rabbit, injecting it into the veins of another animal; the pressure rose in both cases. Lewandowsky[4] approaches the question of the alleged internal secretion of the kidney as suggested by these experiments and points out that controls were not made. He experimented on seven animals; in one the kidneys had been extirpated 24 hours previously, in one 72 hours, and in the remaining five 48 hours. He injected renal vein blood and used controls in each experiment, injecting blood abstracted from the jugular vein. In all cases the blood was injected into the jugular or facial vein of another animal. The result was that the injection of renal blood gave an effect differing in no way from that of the blood derived from the body as, e.g., out of the jugular vein. In three cases, however, there was a rise of pressure which was not inconsiderable but Lewandowsky concludes it was not a specific rise, for the controls injected with jugular blood also showed a rise. He considers that in part this rise was due to the rapidity of injection but admits that similar masses of saline solution injected under similar conditions were quite incapable of causing such a rise *and concludes that in defibrinated blood substances are present which under certain conditions can cause a rise of blood pressure.* Lewandowsky pursues this problem no further, but ends with a criticism of this part of the work of Tigerstedt and Bergman and denies that the renal blood exerts a specific pressor effect. Whatever may be the verdict as to the value of these observers' two experiments in showing that there is an internal secretion in health, no one can doubt that the significance of their experiments with the renal cortex for pathology is very great. The one thing we should like to know, however, is whether or not other fresh tissue produces a rise of pressure; from the experiments I have made it seems possible that they can do so, but it can be said that brain tissue did not do so, spleen substance only occasionally, and that liver in a very large proportion of cases did not cause a rise of pressure. In the latter case the presence of bile in the tissues causes a difficulty, for it is known that bile salts of themselves cause a fall. So, too, urine causes a fall and if this is not well washed out from the kidney it may be the cause of some of the negative results following an injection of kidney extract. Reasons will be given later to show why brain extract causes a fall of pressure.

We have already seen that 11 out of the 12 patients in whom there was a rise of blood pressure above normal limits had obvious signs and symptoms of renal disease. In the four fatal cases amongst these 11, sclerosis of the kidney was present; in three the *cortex* was *shrunken*. We know that the tonus of the musculature of the blood-vessels is under the influence of reflex stimuli which act through all centripetal nerves and also through an automatic mechanism—that is, through the depressor nerve, which, giving warning when the intracardiac pressure is abnormally high, leads to a fall of pressure through the influence exerted on the vagus and vaso-motor centres. It is through this latter mechanism alone that all those substances which arise normally in health through the disintegration of body tissues, &c., can possibly act on the blood pressure. In disease it is reasonable to believe that in some cases some substances act more markedly upon this automatic mechanism which includes the musculature of the blood-vessels.

The question that now presents itself is this, Can we derive from the discovery of Tigerstedt and Bergman any explanation of the pathological departures which we have already noted as occurring in blood pressures at the bedside? The answer must be that there is good reason to think that they have added a great deal to our knowledge because, so far, no one has been able to associate the alterations met with in the blood pressure in renal disease with any definite cause. If the renal cortex contains a pressor substance capable of causing rise of pressure then, when it enters the circulation which it is reasonable to believe may occur in certain pathological conditions, blood pressure rises.

Tigerstedt and Bergman rightly adopt a most modest attitude towards both the physiological and pathological bearings of their discovery. They have comparatively little to say about the physiological effect of renin upon the circulation and their wisdom is apparent at once, for although it is well known that the cells of the organ are constantly being replaced by new ones, the old passing through a series of changes, to which I will refer presently, preparatory to being removed from the body, it is certainly not satisfactorily proved that such cells in the early stages of their bio-necrosis are capable of being used for the maintenance of physiological arterial tension. But there can be no doubt whatever that when this possibility is transferred to the arena of pathological discussion a very different reception must be accorded to it. We know that in the contracted kidney one of the best established changes is the shrinkage of the cortex, which has been shown to contain more renin or pressor substance than the medulla.

It is acknowledged that high arterial tension is not so constant a feature of chronic parenchymatous nephritis as of the interstitial variety, but still it does occur. It is, however, very common in cases of renal sclerosis. Possibly hypertension is an expression of a kidney condition in which renal parenchyma, little altered or not at all, is passing into the circulation either from changes, as in contracted kidney, associated with obliterative arterial disease or as a result of toxic agents which are more common causes of parenchymatous changes. In cases of severe acute nephritis observations have been made with the sphygmomanometer which show that hypertension also occurs and even may do so within 24 hours from the onset of the kidney lesion. Buttermann[5] found a rise of blood pressure in the majority of 18 cases of acute nephritis; in 13 cases of granular kidney the pressure was *always* raised and in the cases which proved fatal there was *always* a condition of contracted kidney and hypertrophy of the heart; in 13 cases of chronic parenchymatous nephritis pressure was raised in one-third of the cases, in the rest it was normal or subnormal. In three early cases of lead poisoning the pressure was normal. The older observations of Traube and Riegel without the syphgmomanometer also point to the possibility of a rapid rise in arterial pressure in the nephritis of scarlet fever. It therefore seems probable that in view of Tigerstedt and Bergman's discovery and of the inadequate nature of the older mechanical views of the causation of cardiac hypertrophy and of hypertension (Cohnheim, Fagge, and Thoma) maintained hypertension may mean liberation of kidney substance and its entrance into the circulation. Whatever the blood pressure may have been beforehand, if a toxic agent leads to the liberation of sufficient renal parenchyma, or if a sufficiently large district of renal tissue is newly cut off from the general circulation by extension of occlusive disease already affecting the renal vessels, the cells involved yield a pressor substance to the system and cause a rise of pressure above normal. If the liberation is small then there may be little or no disturbance of the blood pressure already existing.

It is well known that sclerosis of the kidney may be found unexpectedly in post-mortem examination, no symptoms ever having apparently called for relief. In other cases uræmia develops quite suddenly in patients previously apparently quite healthy. It is quite conceivable that some of the cases which are now being recognised as cases of increased arterial tension, largely owing to the help of the sphygmomanometer, without any signs of renal disease or of disease of the superficial arteries, are really cases similar to those just mentioned; liberation of renal tissue may be taking place and only show itself clinically by the production of increased pressure and by signs which are so slight as to be disregarded or so equivocal as to defy interpretation. Such cases would be included in the group of angio-sclerosis and of pre-sclerosis described by von Basch and by Huchard. Even the cases of hyperpiesis described by Professor Clifford Allbutt may be of similar nature. Extravagant claims must not be made, however, for the discovery of Tigerstedt and Bergman; hypertension must not in the present state of our knowledge be referred to a nephræmia alone; it is possible that other tissues when once freed from accompanying disturbing factors, such as contained excretory matter, &c., will be subsequently shown to produce as constant pressor effects as kidney substance does. Hypertension may be shown to exist in conditions in which other organs than the kidney are undergoing disintegration; in my cases there is no evidence to show that clinically hypertension maintained for a considerable time exists except in cases in which the kidney is affected.

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[3] Proceedings of the Physiological Society, 1897, vol. xxii., p. 22.

[4] Zeitschrift für Klinische Medicin, 1899, Band xxxvii., S. 541.

[5] Deutsches Archiv für Klinische Medicin, 1902, Band lxxiv., S. 1.

In the list of clinical cases referred to in the first lecture reference was made to the fact that in four of the cases of high tension the patients died and renal sclerosis was found in each of them. *Uræmia was present in all these cases;* the blood pressure was raised above normal till within a few hours of death. Hypertension is considered to be a feature of uræmia[6] and this short list confirms this view. The idea has been advanced that in uræmia a poison is developed which provokes arterio-spasm (Traube), and as a result of this condition such cases frequently present symptoms of mono- or hemi-plegia and yet post mortem no lesion can be found to account for such signs. This difficulty was met with in the first of the clinical cases referred to in the first lecture. Here, again, the power possessed by the renal cortex of producing spasm of the arterial musculature gives support to the view that uræmia, a condition which so far has eluded all satisfactory explanation, may be due in part at least to an abnormal or excessive amount of pressor substance derived from the kidney cells. The view that the vessels of the brain may be contracted by the action of liberated renin is rendered tenable by the more recent observations which show that the cerebral vessels possess a nerve supply. There is no difficulty in attributing the various acroparæsthesiæ, &c., which usher in uræmic manifestations, to arterio-spasm, such as could be induced by the escape of renal tissue into the circulation.

That the blood pressure does not remain high in all cases of uræmia till death occurs does not militate against this renal origin of uræmia because with the suppression of urine which so often occurs there is a retention of material which is able to act as a cause of lowered arterial pressure and, moreover, as will be seen subsequently, one of the results of deep disintegration of tissues in general is to produce substances which cause constantly a fall of pressure.

Just as in the case of hypertension all workers look forward to the discovery of a toxic cause, so, too, in uræmia, the same hopeful anticipations have been made; indeed, some have gone so far as to insist that the toxic cause is an albuminous one. We know that the retention theory is a quite inadequate explanation of uræmia, that the theory that uræmia is due to a failure of the internal secretion of the kidney is also not proven, and that though we possess certain knowledge that ablation of kidney substance causes experimentally a loss of a check upon the rapidity of proteid disintegration and therefore favours an excessive formation of urea, especially in the muscles, such experiments have not given us knowledge of the cause of uræmia (Dr. J. Rose Bradford). But there is reason to believe that Tigerstedt and Bergman, by showing that the renal cortex when once it enters the circulation causes spasm of the arteries, have demonstrated a toxic agent, such as has been invoked by Traube, to complete his hypothesis that arterial cramp is responsible for some at least of the features of uræmia. If we invoke the results of treatment we find that this view is supported, for we know that renal asthma so-called, which is so often met with in sclerosis of the kidney, is able to be greatly remedied by the use of drugs which dilate the arteries. It will be remembered that some of the clinical cases showed extreme hypertension and yet were free from uræmia—e.g., Case 2. It is therefore necessary to invoke some local factor and this may be found in the effect produced by arterial disease; the lumen of a vessel the seat of arterial disease may be large enough to admit sufficient blood in ordinary circumstances, but when once arterial spasm is added as well, the blood passing to any particular organ or district becomes inadequate and hence possibly some at least of the uræmic manifestations. In short, it may be that some of the signs of uræmia are dependent upon a sort of "intermittent claudication" or rather "paroxysmal claudication" of certain vascular areas and that renin may be the immediate cause and local vascular disease a predisposing one; given the absence of either of these factors uræmia may not result, but it is possible to believe that the arterial spasm produced by renal pressor substance may in some cases be sufficient in itself to cause some of the phenomena of uræmia; that this is possible is to some extent shown by the fact that uræmia is not always fatal (Case 9), recurring several times, and occlusive vascular disease may not be demonstrable in all cases.

You will probably, as a result of this suggestion that uræmia is due to the effect of a toxic substance derived from the renal tissues capable of producing arterial cramp, &c., raise the point that Dr. Bradford, and subsequently Dr. Herringham, Dr. Griffiths, and other observers, have published records showing that the cortex of the kidney may be in a condition of acute necrosis and yet uræmia is absent and death occurs in six or seven days, the dissolution being more like that met with in obstructive suppression than in non-obstructive suppression of urine. It may well be thought that such cases would constitute good tests of the correctness of the above view. Unfortunately, at the time such cases were observed blood-pressure observations by means of the sphygmomanometer were not made. However, uræmia was absent and yet the cortices of the kidneys were necrosed. There is but one answer to make to this apparent refutation of the above theory—viz., that the arteries of the kidney cortex were completely thrombosed; the cortex was in a condition suitable for the causation of high blood pressure and possibly of uræmia but the vascular occlusion was too complete to allow of the cortical substance gaining access to the circulation.

That obstructive suppression due to impacted stone, &c., does not cause the signs of uræmia to appear is explainable on the ground that the normal urinary constituents in not being able to escape from the body are capable of causing a fall of blood pressure.

Hypotension.—A consideration of the list of 68 clinical cases not only showed the existence of a group of patients in whom high arterial tension was a feature but also a number in whom low pressure was present. The same method of answering the problem of the cause of low pressure has been adopted as in examining for the cause of high pressure. Even quite fresh liver and brain, as a rule, caused a fall of pressure, so that it is conceivable that in diseases affecting these organs—such as cirrhosis of the former and softening of the latter—material is directed into the circulation and produces similar depressor effects. But the problem at once occurs, Is it at all likely that different effects are produced upon the arterial tension according to the degree of altered nutrition which exists in various organs in different diseases or in different stages of such diseases? To answer this problem satisfactorily a digression must be first made in the direction of studying briefly the chemistry of the products of decomposition of the cell body and of its nucleus. Such a task, however, requires the consideration of a phenomenon which has excited considerable interest and which was first seriously studied by Professor E. Salkowski. I refer to the subject of auto-digestion—i.e., a process in which the cell contents undergo liquefaction owing to their removal from the body and so from their natural sources of food-supply and from those means by which the products of their solution are able to be removed. Hoppe-Seyler in 1871 made the following statement: "All organs dying within the interior of the organism undergo, in the absence of oxygen or even in its presence, liquefaction; during the progress of softening leucin and tyrosin are formed from proteid and free acids or soaps from fats. The phenomenon is accompanied by no development of offensive odours and may be compared with the processes which are associated with the action of digestive ferments." Although these observations were made so long ago that the exclusion of bacterial effects could not have been considered, more modern work has proved the correctness of the view that tissues are able on their own account to liquefy.

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[6] Ascoli: Vorlesungen über Uraemie (Jena, 1903). (I am indebted to Dr. A. E. Garrod for drawing my attention to this work.)

Hüfner, in 1872, made a discovery which brought the explanation of this process much nearer solution. He found that after extracting the salivary glands of the pig and the lungs of calves by means of glycerine it was possible by precipitation with alcohol to obtain a substance which differed very much from proteids and was able to digest proteid. Thus, digestive ferments appeared to be widespread in the system. It was, however, objected that such processes were entirely post-mortem changes and that they had no representation in the living body—a somewhat singular attitude to adopt, for it is hardly to be expected, as Salkowski says, that when life ceased in the individual such a vital phenomenon as digestion of tissues should only then be initiated; it is much more likely that the processes operating after death are also active during life. Differences exist, of course, in the two conditions, for in life the primary dissociation products are removed but in the dead body such products remain *in situ*.

Salkowski,[7] as a result of the observations made by Hoppe-Seyler and Hüfner, was able to conclude that proteolytic ferments occurred not only in the digestive tract but also were present throughout the body and though weak agencies were necessary to the organism, for they were found in the lowest forms of life. Thus was laid the foundation of our belief in what is now known as auto-digestion or autolysis by means of intracellular ferments—a process which is of importance not only in the study of metabolism in health but which has important bearings on various pathological problems. Schützenberger followed with his observations on the power of yeast to digest itself. Yeast was placed in water for from 12 to 15 hours at a temperature of from 35° to 40° C.; considerably less yeast was found to be present at the end of the experiment than if it had not been exposed to warmth; part of the yeast had evidently gone into solution, because the watery extract of the incubated yeast was found to contain leucine, tyrosine, carnine, xanthine, guanine, and hypoxanthine.

Salkowski, impressed with the probability that intracellular ferments existed in life and were responsible for intra-vital autolysis, made observations on the liver. He prepared the liver by mincing it and placed it in chloroform water. Flasks of this mixture were exposed to a temperature of 40° C. for from 60 to 70 hours and were frequently shaken—"antiseptic" autolysis. The mixture was shown to be sterile at the end of the incubation and control observations were made by boiling before incubation. Salkowski prefers to use chloroform as an antiseptic because of the ease with which it may be driven off from the preparation when no longer required. Toluol has been used by other workers in preference to chloroform: the latter antiseptic is known to prevent not only bacterial development but as with toluol the action of unorganised ferments is also somewhat inhibited by it. Toluol appears, however, to have a great drawback in that putrefactive changes have been known to go on even in its presence. Analysis of the two preparations made by Salkowski showed that as a result of antiseptic autolysis there is a considerable increase of soluble organic substances and this is notably the case in regard to the nitrogenous bodies. The increase of soluble nitrogenous substances is due to the formation of primary dissociation products derived from proteids and nucleo-proteids.

It is well known that the animal cell contains proteids in the cell body which also to some extent prevail in the nucleus and that the nuclei contain various nucleo proteids. Recent investigation[8] in chemical physiology has been directed largely towards an elucidation of the cleavage of proteids and nucleo-proteids. These former bodies may be split by various agencies such as heat, acid, alkalies, and bacteria and then give rise to what are known as "primary dissociation products." But the same dissociation which is a process of hydrolysis, being associated with the breaking up of water and the incorporation of the liberated hydrogen and oxygen, occurs in digestion of proteids and derivatives by the ferments pepsin, trypsin, erepsin, and arginase. The first two, especially trypsin, are instrumental in simplifying the proteids by producing albumoses and peptones, but also are able, though at a much slower rate of velocity of action, especially in the case of pepsin, to exert those deep disintegrations of proteid derivatives which are special duties of the erepsin and arginase, ferments which are present not only in the intestinal mucosa but also in the tissues of the body, erepsin being almost universally distributed and arginase being found especially in the liver.

The primary products of proteid dissociation include at least four different groups of bodies. Amongst the best known substances are leucine and glycocoll (mono-aminic acids); in the same group occur alanine, asparagine, aspartic acid, glutamic, and amido-valerianic acids. A second group consists of three members which are known as hexone bases because they contain six carbon atoms; they are known as lysine, arginine, and histidine; they have the common feature that they are formed by the introduction of two amino-groups into fatty acids. A third group of primary dissociation products includes derivatives not of fatty acids but of the aromatic series, and the best known is tyrosine; one which has recently been much investigated is tryptophane and another is phenylalanine. A final group includes ammonia, which by the action of ferments can be split off from the proteid molecule directly; also the sulphur-containing substance cystine, scatole, indole and the pyrimidine bases, such as thymine and cytosine. It is probable that between the group of somewhat simplified proteids such as proteoses and peptones on the one hand and the bodies indicated in the above four groups on the other, there exists a group of substances which are intermediate in character and consist of groupings together of various amino-acids: these are known as polypeptides. A number of dissociation products exist but at the present time it is impossible to say whether they are primary or derived by disintegration of other primary bodies; amongst these bodies may be mentioned leucinimide and hydrocyanic acid.

The number of secondary dissociation products capable of arising by the action of hydrolytic ferments upon primary dissociation products is limited. It is known that the amino-acids above mentioned are very resistant to the action of pepsin and trypsin; desamination, or the attack upon the amine constituent in amino-acids, is not a strong feature of peptic or tryptic action, but other ferments are present in the body and are capable of exerting this lytic action, for amino-acids when given in moderate quantities are completely broken up—e.g., glycocoll, alanine, leucine, and phenylalanine. When once amino-compounds are converted into imino-compounds then trypsin, erepsin, and arginase are capable of attacking the imino group.

Important as the study of the decomposition products of proteids may be for a thorough comprehension of the important observations made by Salkowski on autolysis, still greater importance is attachable to the study of the nucleo-proteids which enter so largely into the composition of the nucleus of cells in consort with glyco-proteids.

Nucleo-proteids.—The nucleo-proteids are widely diffused in the animal body and form important constituents of all nuclei. It is known that on the destruction of the cell derivatives of nucleo proteids are capable of passing into the body fluids and have been found in the blood. They are strong or weak combinations of proteids and various nucleinic acids. Nucleo-proteids yield all the ordinary dissociation products which result from the disintegration of proteids, and in addition they yield pyrimidine derivatives, purin bases and phosphoric acid, as derivatives of the nucleinic acid.

The purin derivatives.—Fischer has indicated by the term "purin" a nucleus having the composition expressed by the formula $C_5H_4N_4$; bodies constructed on such a foundation are spoken of as purin or alloxuric or xanthine bodies. Amongst the best known of these are hypoxanthine, xanthine, uric acid, guanine, and adenine. Just as in the case of the derivatives of proteids, observations have been made on the toxic effects produced by the introduction of such substances into the economy, so also the derivatives of nucleo-proteids have been studied with the same object. By studying the effects on blood pressure of some of these derivatives, it is possible to draw some conclusions as to the possible causes of those interesting cases or occasions of depression of blood pressure which were noted in the list of clinical cases already referred to; the importance of such study is well shown by the knowledge that life is impossible when the blood pressure falls below a certain minimum.

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[7] Salkowski: Virchow's Archiv, 1873, Band lviii., S 3. For a full account of the subject of autolysis see Salkowski: "Ueber Autolyse," Die Deutsche Klinik, 1903, Band xi., S. 147-182. Also Jacoby: "Ueber der Bedeutung der Intracellularen Fermente." Ergebnisse der Physiologie, 1902; Biochemie, Abtheil I, S 213, and Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, 1902, Band xiii., S. 2. Also Umber, Berliner Klinische Wochenschrift, 1903, No. 9, S 185.

[8] For many facts connected with the chemistry of proteids and nucleo-proteids, reference has been made to the work of Halliburton: Schäfer's Textbook of Physiology, 1898, vol. i.; Hammarsten's Textbook of Physiological Chemistry, translated by Mandel, 1904; Halliburton's Bio-chemistry of Muscle and Nerve, 1904; Schryver's Chemistry of the Albumens, 1906; and Mann's Chemistry of the Proteids, 1906.

THE CHEYNE-STOKES PHENOMENON IN ACUTE CEREBRAL COMPRESSION.[1]

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THE group of periodic manifestations often referred to as "Cheyne-Stokes respiration" is met with in surgery chiefly as a symptom of cerebral compression, and as a rule is not regarded as being of more than slight practical importance. In surgical writings it is generally described as a terminal condition and therefore of very grave significance in prognosis, while attention is not usually directed to any interest that it may have in diagnosis or to any evidence that we possess as to its causation. Each of these three aspects of the phenomenon will be briefly discussed in this paper.

DEFINITIONS.

As the subject of these periodic phenomena has been somewhat confused by purely verbal ambiguities, some preliminary attempt towards definition has been rendered desirable. In the first place, the phrase "Cheyne-Stokes respiration," or any name in which the word respiration occurs, is unsatisfactory, as it is a matter of common experience that the respiratory manifestations may be absent. Again, many writers maintain a distinction between what is called the true Cheyne-Stokes respiration and the so-called cerebral respiration. The latter is often named after Biot who called attention to its peculiarities in 1876 and laid great stress on its differences from the Cheyne-Stokes type. The Biot type of respiration differs from the Cheyne-Stokes solely in showing abruptly limited groups of respirations with no gradual waxing and waning—that is, the former presents an abrupt alternation of hyperpnœa and apnœa, while the latter shows apnœa alternating with hyperpnœa by a gradual transition and the reduction in the amplitude of the breaths may never reach true apnœa. As this distinction is not absolute, for many transitional forms unite the two types, its maintenance is not of much value. That, however, there is a type of grouped respiration occurring in cerebral cases which Biot was justified in distinguishing absolutely from Cheyne-Stokes breathing there can be no doubt. This is the form of irregular gasping respiration which occurs in the late stages of cerebral compression when the vaso-motor centre has already begun to fail and the blood pressure is rapidly falling. This is a true terminal manifestation and is associated with other evidences of a failing circulation such as pallor and a weak irregular pulse. It presents a fundamental difference from Cheyne-Stokes respiration in its irregularity both in its occurrence and the number of breaths in each group. Such a symptom is, of course, almost necessarily of fatal significance, for it is in essence a condition identical with the gravest kind of shock and could only be met by efforts directly to raise the blood pressure independently of the centre by such means as the intravenous injection of adrenalin and by mechanical compression of the peripheral circulation. Three conditions, then, are recognisable—two, closely associated, of true periodic breathing differing only in the way in which the transition from hyperpnœa to apnœa is effected, and a third, essentially different from both, depending upon vaso-motor paralysis. For the first two there is no satisfactory inclusive name. At present when our knowledge of their pathology is so imperfect the clumsy phrase "Cheyne-Stokes phenomenon" is perhaps the least objectionable.

CLINICAL FEATURES.

No detailed description of a condition so familiar as is the Cheyne-Stokes phenomenon need be given here. It is enough to enumerate the four chief factors in the group and shortly to comment on them. In the fully developed form the following factors are recognisable. (1) Periodic respiration; (2) variations in pulse-rate and strength and in the blood pressure; (3) variations in the size of the pupils; and (4) variations in consciousness. It should be understood that these observations refer only to the Cheyne-Stokes phenomenon as it occurs in cases of cerebral compression.

1. *Respiration.*—As already said, regular periodicity is the principal characteristic. Two extreme types are seen—the gradual and the abrupt transition between hyperpnœa and apnœa. Intermediate forms occur such as an abrupt beginning and a gradual ending of the hyperpnœic period and *vice versâ.*

2. *Circulatory variations*—Increased strength of the pulse during hyperpnœa is the most important feature. Increase in the pulse-rate is usually observable at the same time. Increase in the blood pressure has also been recorded (Cushing) but such observations must obviously be open to fallacy when made with the Riva-Rocci apparatus on account of the increased muscular tension during the hyperpnœic period. The record would only be unobjectionable if the observations had been made on the paralysed side in a case of cerebral compression. In the only record I have found this point was not noted.

3. *Variations in the pupils.*—The pupils dilate just before or at the onset of the hyperpnœa. This variation is not uncommonly absent and for it to occur the pupillary light reflex must be present.

4. *Variations in consciousness.*—In my experience of cases of cerebral compression showing the Cheyne-Stokes phenomenon the patient has always been unconscious. This is probably not a necessary concomitance but rather an expression of the fact that the compressing agent in the majority of cases compromises the cerebral hemispheres first, while compression primarily affecting the bulb rapidly passes through the period when the manifestation of the Cheyne-Stokes syndrome is possible to the production of a fatal paralysis. Were traumatic compression of a slight grade commonly primary in the cerebellar chamber periodic breathing with full consciousness during the hyperpnœic periods would probably be as common in cases of head injury as it is in disease. In actual experience in such cases during hyperpnœa the decrease in the profundity of the unconsciousness does not reach complete consciousness. The most that is attained is a state corresponding with the well-known second stage of cerebral compression of Kocher, or stage of irritative manifestations. The patient then displays restlessness and certain peculiar movements of the limbs, and, rarely, a paralytic manifestation, such as conjugate deviation of the head and eyes, may for the time disappear. (See Case 2.) He groans and mutters and may fumble in a semi-purposive way with things put into his hand. Of this group of phenomena the peculiar movements of the limbs are the most striking and important. These are no mere irregular jerkings of the limbs such as occur in a steadily maintained irritability of the cortex. The periodic return of function is associated with a fixed result, so that during each period of hyperpnœa a complex and stereotyped series of movements occurs. At or before the beginning of the group of respirations the arm begins to execute such actions as scratching or rubbing, pulling the moustache, and so forth. The movements are always complex, they have the appearance of being voluntary, and are such as might be expected to be habitual. They are, however, performed through hundreds of repetitions in an exactly similar order and with an unvarying preciseness of reproduction. If an attempt is made to interfere with them they are persisted in with considerable force, the hand struggling with the restraint, and if successful completing the series unless apnœa should have meanwhile intervened. If the hand in its wanderings encounters anything the latter is fumbled with, often in such a way as to show recognition; if an unfamiliar object is met with such as a bandage round the head, the hand will often pluck at it and even succeed in tearing it off. In the leg the movements, as might be expected, are much simpler and usually confined to mere flexion and extension. A very important fact is that when a part of the brain is involved to the extent of producing anæmia and therefore paralysis of the limbs supplied by that region, such limbs will not be moved during the hyperpnœic periods. As already stated, it is only in rare cases that a true paralytic symptom disappears during those periods. The onset, then, of a hemiplegia can be watched

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[1] Part of a paper read before the Medical Society of University College, London, Jan. 17th, 1906.

by noticing the gradual cessation of the Cheyne-Stokes movements in the limbs involved, while those of the opposite side continue to move strongly.

Certain modifications of the classical type of the phenomenon are very common. It may be said broadly that any one of the four factors may be absent and quite often more than one. The pupil changes are perhaps the least constant; the respiratory periodicity is quite often absent, especially in the earlier phases of the case. The periodic movements are probably the most constant feature. This great variability is possibly the reason why the Cheyne-Stokes phenomenon, though very common in cases of head injury, has excited comparatively little the interest of surgeons.

DIAGNOSTIC SIGNIFICANCE.

The value of the phenomenon in diagnosis is perhaps its most important feature. In the first place, as we shall see later, it affords certain evidence of severe compression of the brain and of implication of the bulb which, if left unrelieved, will surely cause death. It is not, however, an immediately terminal symptom, for it may persist in its fullest development for many days and it indicates a modified functioning rather than a paralysis of the medulla. Secondly, it may give rise to difficulties in diagnosis through the periodic movements being taken for evidence of focal irritation. We have already seen that the movements will be absent from a hemiplegic side; it is therefore obvious that if the movements be taken as pointing to a focal irritation the side of less advanced compression—that is, the side opposite to the hæmorrhage—will be operated on. The movements occur in groups and when they are unilateral do, in fact, present some superficial resemblance to those of a fit. Such a mistake is, of course, easily avoidable and is rendered impossible by the following considerations. 1. The Cheyne-Stokes movements occur at regular intervals and last for regular periods. Between attacks there is complete cessation of movement. 2. They are of wide range and complex character and in spite of their complexity are repeated time after time with great exactitude. In one case, for example, the patient rubbed the side of his face, chest, and abdomen in that order at regular intervals for a great many hours. The limb shows signs of mere fatal automatic action and accommodates itself to some extent to new circumstances; this can be seen if some object is put into the hand or an attempt is made to control the movement. In rare cases one may see on one side the complex Cheyne-Stokes movements and on the other the simpler ones of a fit. 3. They begin simultaneously throughout the limb and affect the arm and leg together, showing no trace of the orderly march of a Jacksonian fit. 4. They correspond with the occurrence of the other Cheyne-Stokes factors, though the possible absence of some of these factors should be borne in mind.

The third point of diagnostic interest in connexion with the phenomenon is the fact that it may reveal the presence of a paralysis otherwise unsuspected or in need of confirmation. It may be stated definitely that if Cheyne-Stokes movements are present and a limb does not participate in them that limb is paralysed. In a case of head injury this will, of course, indicate the site of maximum compression. Such an indication is of especial value in traumatic compression where there is usually evidence of widespread irritation which is apt to prove confusing.

I recall a case, not, however, of head injury, where the capacity of the Cheyne-Stokes movements of, as it were, dissecting out the paralysis was well shown. An infant had become comatose from intracranial pressure; there was nothing in the signs to distinguish definitely between tumour of the brain and meningitis—in fact, the former was on the whole thought to be the more probable. Then periodic phenomena developed with the characteristic movements. These movements, however, left unaffected the arm of one side and the leg of the other, thus affording evidence of multiple paralysing lesions and strongly suggesting the diagnosis of meningitis, which was confirmed post mortem.

The two following cases of traumatic compression illustrate most of the characteristic features of the Cheyne-Stokes phenomena to be seen in this condition.

CASE 1.—The patient, who was a middle-aged man, was admitted to University College Hospital some years ago when I was a house surgeon. About a quarter of an hour before admission he had been thrown from a cart and had pitched on his head. He was bleeding from the right ear and showed signs of concussion. Half an hour after admission he vomited and recovered consciousness. An hour later, having been very restless throughout that time, he vomited again and had a fit which began on the left side and spread to all the other limbs. With the onset of the fit he lost consciousness. After the fit there was rigidity of all the limbs and for a short time slight rapid twitching of the right side of the face. Throughout the following night he was very restless, moving about in bed and trying to pull off the bandage round his head. It was noticed that he moved the left side much more than the right and that he was quite quiet at times, but not whether there was any definite periodicity in the restlessness. The following morning he was still unconscious. Both knee-jerks were exaggerated, the right slightly in excess of the left. The pupils were equal and reacted to light. At intervals there were complicated movements of the left arm—scratching and rubbing the left side of the face and body. The movements were practically identical at each repetition and were executed with a great air of purpose. They coincided with other periodic phenomena of the true Cheyne-Stokes type. The right arm scarcely moved at all. The lower limbs were rigid. The left leg showed flexion and extension movements during the hyperpnœic periods. For the next three days the unconsciousness and the periodic phenomena persisted. The pupils continued to be equal and to react to light. Gradually all movement on the right side ceased, the limbs on that side being rigid and motionless. The limbs on the left side continued to move during the hyperpnœic periods. From the first painful stimuli applied to the left side caused responsive movements much more readily than when applied to the right. On the fourth day the rigidity had disappeared from the right side and painful stimuli applied to the right arm only caused a much delayed responsive movement of the left arm. The periodic phenomena still continued. There was no response to stimulation of the right leg. The patient was trephined on the left side and four and a half ounces of clot were removed from between the dura mater and the skull. The brain expanded rapidly and the periodic phenomena ceased. Later, however, the pulse failed and the patient died six hours after the operation. The temperature had been rising for three days and at death was 106·4° F.

This case illustrates well the early onset and long duration of the Cheyne Stokes phenomenon. It shows also the gradual onset of a hemiplegia as seen in the slow cessation of the periodic movements on the right side, followed by a period in which rigidity persisted and then flaccidity. In this case the distribution of the movements was the principal localising sign. The absence of paralytic pupil changes allowed variations of the pupil to occur with the respiratory periods.

CASE 2.—The patient, a man, aged 41 years, was admitted to University College Hospital on Dec. 18th, 1904. Two hours earlier he had received a bullet wound in the head. On the right side, about one inch in front of the external auditory meatus and two and a half inches from the middle line, there were a bullet wound of the scalp and a perforation in the underlying skull. The edges of the wound were blackened but there was nothing to show whether the bullet had been directed forwards or backwards. No exit wound was present. The patient was pale and quite unconscious and did not respond to any stimulation. The pupils were of moderate size, equal, and reacted to light. Respiration was almost inaudible and very shallow. The head and eyes showed a slight deviation to the left but were fixed in the mid position during the movements described below. From time to time at fairly regular intervals movements of the left arm occurred. They were complex in character, so much so as to suggest consciousness. During the movements the patient unbuttoned and buttoned his waistcoat, pulled his moustache, and felt and fumbled with anything his left hand encountered. At the same time there were movements of flexion and extension of the left lower limb. Careful examination showed the movements to be associated with slight increase in the pulse rate and the size of the pupil. There was no marked periodicity in respiration but careful listening revealed a slightly deeper catching breath at the beginning of the movements. As a rule the right arm and leg were absolutely motionless but now and then flexion of the fingers and adduction of the thumb were noticed. They seemed to coincide in time with the periodic movements on the other side, but were not observed often enough to allow one to infer any causal relation in the coincidence. All the limbs were rigid. The knee-jerks were much exaggerated, perhaps the right a little in excess of the left. Well marked ankle clonus and extensor response were present on the right side; on the left side there were flexor response and no ankle clonus. Triceps and supinator jerks were brisk and equal. In this case to a very superficial examination the situation of the wound and the movements on the left side might have suggested a lesion on the right side of the brain causing fits. The Babinski's sign and the ankle clonus on the right side showed, however, that there was some grave lesion of the left motor path. That the movements were periodic and not in the nature of convulsions was clear and showed that there was a hemiplegia on the right side and none on the left. The diagnosis made therefore was that there was probably no serious lesion on the right side of the brain but a large one on the left, probably within the brain substance. The bullet wound on the right side was explored and some loose fragments of bone were removed. No blood clot was found and the brain, which showed a small puncture, did not bulge. The skull was opened freely in the left parietal region. The brain showed a pronounced bulging but exploration of it failed to reveal the bullet or any blood clot. During the operation the respiration became markedly periodic with sudden transitions from apnœa to hyperpnœa. The patient died the next day; the symptoms had not been relieved and the temperature had risen to 106° F. Post mortem the track of the bullet was found to pass downwards, backwards, and to the left, missing the right motor path. It traversed the left lateral ventricle and neatly divided the posterior part of the left internal capsule. The bullet had come to the surface on the inferior aspect of the temporal lobe where it lay against the skull amidst a considerable amount of subdural blood clot.

The case corresponds with Case 1 in showing a very early onset of the periodic phenomena and the absence of paralytic pupillary changes. It is noticeable here that at first there was only very slight and easily overlooked respiratory periodicity, which later, however, became very well marked. It is perhaps worth remark that the case illustrates well how completely the dural septa may limit compression to one chamber of the skull. When the right side was opened the intracranial tension was practically normal. Immediately after, however, the left cerebral chamber showed a very high tension, a fact due no doubt to plugging of the opening of the falx by the dislocation of the left hemisphere. This mechanism and a similar occurrence in the case of the tentorium were pointed out by Hill in his classical lectures on the cerebral circulation.

PATHOLOGY.

In the very large literature concerned with the pathology of the Cheyne-Stokes phenomenon, the significance of the facts of traumatic compression in relation to the problem seems not to have received so much attention as it deserves. For this reason an attempt will be made here briefly to discuss this aspect of the matter. Such discussion must for the sake of clearness necessarily involve the repetition of certain familiar facts.

In the first place, it is necessary to base all such discussion upon the obviously fundamental proposition that all the symptoms of compression of the brain by blood are due to interference with the circulation in the brain. This circulatory disturbance is progressive and its progress is conveniently described in the three stages defined by Kocher in his work upon cerebral compression. These three stages are as follows: 1. The stage of compensation. In this period the effect of the encroachment upon the cranial cavity is merely to cause a partial compression of the larger veins and an escape of cerebro-spinal fluid, without producing functional interference with the brain or, therefore, any symptoms. 2. The stage of venous congestion. Further compression causes interference with the venous outflow, congestion and consequently an increased excitability of the cortex leading to irritative symptoms, such as restlessness, groaning and muttering, jerkings, or rigidity of the limbs. The retinal veins become distended. 3. The stage of anæmia. Further increase of intracranial pressure empties the smaller vessels and produces anæmia with consequent paralytic symptoms. These three stages have been established by direct observation of the brain.

A second basal proposition is that in a case of hæmorrhage these changes are not simultaneously developed all over the brain but are most advanced at the site of the hæmorrhage, so that in a given case the brain lying immediately under the clot may be anæmic and paralysed, around this will be a broader zone which is congested and irritable, while the rest of the brain is normal. Until the congestive stage has reached any given part of the brain no symptoms will be manifested by that part, so that, for example, bulbar symptoms will not appear until the area of circulatory disturbance has reached the bulb. Hence, as is well known, advanced cerebral compression may be present and capable of diagnosis, without the vagus pulse and respiration and the high blood pressure which are so often regarded as the classical symptoms of compression.

The third step in the problem leads us to the significant researches of Harvey Cushing upon the production of these bulbar symptoms. As is well known, he found that when the compression produced such interference with the bulbar circulation as to threaten the vitality of the bulbar centres the vaso-motor centre became active and by constriction in the splanchnic area produced such a rise of blood pressure as sufficed to re-establish the circulation in the bulb. This process he called the vaso-motor reaction and by the demonstration of it he was able to show that the great rises of blood pressure which had long been known to occur in cases of compression are due to a protective mechanism of the utmost importance. This fact is of great significance in treatment, but that aspect of it cannot be entered upon here. The account just given of the appearance of these bulbar symptoms is only the roughest and most general summary of Cushing's experimental results which now demand some further analysis. He found that when the intracranial pressure was raised and simultaneous records kept of it and of the pulse, respiration, and blood pressure, the mode of appearance of the bulbar symptoms might assume four types, which were as follows. 1. With rapid increase of the intracranial pressure signs of great interference with the functioning of the bulbar centres first appeared. The respiration and pulse were markedly inhibited or stopped and the blood pressure fell. After this preliminary failure the vaso-motor centre gradually recovered and the blood pressure rose until it just surpassed the level of the intracranial pressure, the circulation in the bulb being thereby re-established. This form presents interesting analogies with the features of concussion. 2. With gradual increase of intracranial pressure, before the vaso motor reaction appeared vagus manifestations were called forth with slow deep respirations and slow full pulse. Then the blood pressure rose and overtook the intracranial pressure. This was the normal type of occurrence and presents, of course, the features of "classical" compression with coma, slow pulse, stertorous respiration, and high blood pressure. 3. In some animals by a very cautious elevation of the intracranial pressure a rise of blood pressure could be produced which from the first anticipated and kept just ahead of the intracranial pressure. In this way even such disturbance of the bulbar circulation as suffices to call forth vagus stimulation was avoided and a picture of compression with high blood pressure, but without the classical pulse and respiration, was produced. 4. In certain cases which were not susceptible of complete explanation a type of response was produced which is the most interesting of all in relation to the subject of this paper. The blood pressure, instead of rising to just above the level of, and running parallel to, the intracranial pressure developed rhythmic waves (Traube-Hering curves), of which the crests were well above the intracranial pressure and the hollows well below it. This produced a rhythmic blood-supply in the bulb with the result that when the blood pressure was above the intracranial pressure the pulse was strong and full and the respiration of similar type, whereas when the blood pressure was below the intracranial pressure there were the signs of bulbar anæmia—cessation of respiration and weakening of the pulse. Thus was produced, as Cushing himself says, "a sort of Cheyne-Stokes respiration." The curves he publishes show very clearly the occurrence of these periodic phenomena.

Why this rhythmic variation should in some cases replace the ordinary blood pressure reaction is by no means clear and is in need of further investigation. Cushing suggests that it appears as if the blood pressure initially rose too high and produced an over vascularisation of the bulb leading to a corresponding and in some sense compensatory under vascularisation and that the mechanism once started is self-acting. On such a view as this it is difficult to understand the persistence of the phenomenon as seen in Cushing's experiments and clinically—see, for example, Case 1, where the periodic phenomena lasted for four days. In the case of a centre so capable of fine and rapid adjustments as is the vaso-motor centre it would be very difficult to understand that a mere excess of reaction at the onset and the rebound therefrom could become so fixed as to recur without any modification or adjustment whatever for several days. And if the Cheyne-Stokes phenomenon as it occurs in disease is of the same nature as is here suggested for it in head cases a very much greater possibility of persistence would have to be accounted for.

Several interesting lines of speculation suggest themselves but the evidence is not sufficient to justify the following out of them here. It does not seem at the present time that we are justified in going further than saying that the facts of cerebral compression afford confirmation of the primarily vascular nature of the disturbance in Cheyne-Stokes respiration. It is, perhaps, permissible tentatively to suggest that when such disturbance is very slight it may produce respiratory periodicity only when the respiratory centre is, so to say, left to itself as in the hibernating animal or during sleep; that it is even comparatively slight in disease where in some cases, as Pembrey has shown, the respiratory periodicity can be abolished by alterations in the quality of the air breathed; while the vascular disturbance is probably much more profound in cerebral compression.

That the periodic phenomena in their characteristic form are not merely terminal and a mode of vaso-motor failure seems to be shown by the following facts. In Cushing's experiments they were prone, so far as one can judge by a study of his records, to appear quite early in the experiment rather as an alternative method of vaso-motor reaction than at the end of an experiment in which the reaction had been at first normal. Again, in cases of head injury the periodic phenomena appear to come on quite early, as is shown in both the cases related above, though of course it must be remembered that *irregular* periodic phenomena are true terminal symptoms. Moreover, Cushing does not refer to any special feature in the method of producing compression in the cases where the vaso-motor rhythm was called forth and we cannot as yet distinguish clinically any peculiarity of the compressing agent in the cases which display the characteristic Cheyne-Stokes phenomenon. The suggestion which seems finally to emerge—and it is, of course, no more than a mere suggestion—is that *one* method of response by the vaso-motor centre to the call for increased blood pressure is a rhythmic rather than a tonic activity and that this response is perhaps a peculiarity of the individual rather than of the stimulus. Suggestions for further speculative discussion, possibly in the direction of general biology, present themselves, but it seems more desirable to suppress than to indulge them, as it is proposed to attempt some further clinical and experimental investigation.

SUMMARY.

The features of the occurrence of periodic phenomena in cases of cerebral compression upon which it is desired especially to lay stress here are as follows: (1) that the Cheyne-Stokes phenomenon is in such cases no mere terminal symptom and therefore of necessarily slight interest, but one of the most characteristic forms of the vaso-motor reaction and one which may be manifest nearly from the onset of compression; (2) that various modified forms of the phenomenon occur and may cause confusion, especially when the respiratory periodicity is absent; and (3) that periodic movements are no less frequent and characteristic than when the phenomenon occurs in disease and that they may be of diagnostic importance in rendering manifest a paralysis and in being movements which are to be distinguished from those due to focal irritation.

I have to thank the members of the surgical staff of University College Hospital for permission to use the clinical material upon which this paper is founded.

Bibliographical note.—The general literature of the subject without any special reference to traumatic cases is dealt with in Gibson's monograph, "Cheyne-Stokes Respiration," Edinburgh, 1892. Pembrey's work on the modification of respiratory periodicity by changes in the air breathed is referred to in "Recent Advances in Physiology and Bio-chemistry," edited by Leonard Hill, London, 1906. A reference is there made to the original paper by Pembrey and Allen in the *Journal of Physiology*, 1905, but the essential points are all mentioned in the first of these two places. Some account of Cushing's work is to be found in three places. An excellent general exposition was published in the *American Journal of the Medical Sciences*, September, 1902. It is the Mütter lecture for 1901. In the same journal, June, 1903, was published a sequel dealing with the clinical corollaries of the blood pressure reaction and entitled "The Blood Pressure Reaction of Acute Cerebral Compression." A very interesting account with fuller reference to experimental details was published in the *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band ix., Hefte 4 und 5, 1902. Finally, there is a full discussion of the bearing of Cushing's researches upon the question of cerebral compression in Kocher's well-known monograph, "Hirnerschütterung, Hirndruck, u.s.w.," in Nothnagel's "Specielle Pathologie und Therapie." In Kocher's book several of Cushing's illustrations and curves are reproduced.

Harley-street, W.

THE ACTION ON BACTERIA OF ELECTRICAL DISCHARGES OF HIGH POTENTIAL AND RAPID FREQUENCY.[1]

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IN the course of an inquiry into the action of "high frequency" electrical discharges as they are employed in medical work the nature of the action of such discharges on bacteria was specially investigated. The majority of the experiments were carried out under the following conditions. The current, obtained from the electric lighting main, was first transformed into a rapidly oscillating current of very high potential by means of an alternator driven by a motor and then into an oscillatory discharge of rapid frequency by means of a condenser and spark-gap. The bacteria were exposed to the action of the discharges whilst suspended in distilled water contained in test tubes. A short length of platinum wire was sealed through the bottom of the test tube and dipped into a layer of mercury at the bottom of the vessel in which the test tube was suspended for cooling purposes. From the mercury in the cooling vessel an "earth wire" passed to a gas supply pipe. The discharges were sprayed on to the surface of the bacterial emulsion from a platinum disc with nine wire points projecting downwards and kept at a distance of about 2·5 centimetres above the fluid. With this arrangement of apparatus the bacteria in the emulsion were exposed (1) to the action of the electrical discharge, and (2) to the action of the electrical current as it subsequently passed through the fluid on its way to earth. Certain modifications of the apparatus were used occasionally but the crucial experiments were carried out with the arrangement described.

Result of spraying the discharges on to the bacterial emulsion through an atmosphere of common air.—When the discharge was sprayed on to the emulsion through an atmosphere of common air it was found that non-sporing bacteria were destroyed after exposures which varied in duration between 7·5 and 15 minutes, while sporing bacteria were more resistant but were also destroyed as a rule within 15 minutes. In each experiment the emulsion was found to be strongly acid at the end of the exposure, the reaction being due to the presence of nitrous and nitric acids in quantities varying between 0·09 and 0·25 per cent., in terms of nitric acid, according to the duration of the exposure and the intensity of the electrical current employed.

The possible factors concerned in the destruction of the bacteria.—It appeared as if four possible factors might be concerned in the causation of the germicidal effect observed in these experiments: (1) the action of the light rays resulting from the discharge; (2) the action of the heat rays resulting from the discharge; (3) the action of germicidal substances formed in the air as a result of the discharge and then taken up in solution by the emulsion; and (4) the direct action of the electrical force itself on the bacteria and apart from concomitant chemical and other action. It was shown by experiment that any germicidal influence of either light or heat rays was negligible under the conditions of the experiments. The chemical substances formed in the air by the action of the discharge included nitrous and nitric compounds, and probably ozone and peroxide of hydrogen. The last two would be rapidly decomposed in the presence of nitrous compounds, and would probably be of importance chiefly in favouring the interaction of nascent nitrous and nitric compounds. Tubes of distilled water were then exposed to the action of the discharge under conditions similar to those prevailing in the former experiments, and after such exposure for 15 minutes the water was found to have taken up considerable quantities of nitrous and nitric acids, and to be capable of destroying bacteria immersed in it for periods of 15 minutes or less. Then solutions of potassium nitrite and nitric acid were made up such as would on admixture yield, after 15 minutes' interaction, an acidity equivalent to that of some of the specimens of distilled water which had been exposed to the discharge. And it was found that such a mixture, with an acidity equivalent to 0·05 per cent. of nitric acid, was capable of destroying all the bacteria which had previously been tested after an immersion of 15 minutes (solutions of nascent nitrous and nitric acids much more dilute than this have an efficient germicidal action). It was concluded, therefore, that under the conditions of the experiments the germicidal action of these substances was sufficient to account for the results observed and without taking into consideration any possible direct effect of the electrical current itself.

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[1] An abstract of a paper read before the Royal Society on May 3rd, 1906 (communicated by Professor J. Rose Bradford, F.R.S.).

Experiments were next carried out in order to ascertain whether the electrical current and discharge had of themselves, and without concomitant chemical action of the kind referred to, any effect on the bacteria under the time conditions of the experiments. The action of the current alone was tested by passing it directly through the bacterial emulsion without any preliminary discharge above the surface of the fluid by means of a platinum disc immersed just below the surface. It was found that if the germicidal action of heat was excluded an oscillatory current such as had been employed might be passed directly through the bacterial emulsion for as long as 60 minutes without obviously affecting the bacteria in any way.

Attempts were then made to test the possible action of the discharge above the bacterial emulsion, followed by the passage of the current through it by repeating our experiments in atmospheres of various pure gases—hydrogen, nitrogen, carbon dioxide, and carbon monoxide—in the hope of thus avoiding the complicating influence of chemical substances formed in common air as the result of the discharge. In many of these experiments, however, it was found that actively germicidal substances were formed in, or above, the emulsion and could be detected in solution at the end of the exposure. This result appeared to be caused in most instances by the presence of water vapour in the atmosphere in which the discharge occurred. It was found that in an atmosphere of hydrogen peroxide of hydrogen was formed in considerable quantities in some instances, and in some the probable germicidal action of nascent hydrogen had also to be taken into account; peroxide of hydrogen was also present in solution in considerable quantity in experiments in which the discharge was sprayed on to the bacterial emulsion through atmospheres of carbon monoxide and dioxide.

In experiments carried out in an atmosphere of pure nitrogen it was again found that nitrous and nitric compounds were formed and taken up in solution in quantity sufficient to destroy the bacteria present. In experiments of this nature, however, in which chemical changes due to the discharge in the gas above the emulsion were kept at a minimum, no germicidal action was manifested.

Conclusions.—In all the experiments in which a decided germicidal effect was observed it appeared that this was due entirely to the action of substances formed as the result of electrical action on the atmosphere in which the discharge occurred; and it appeared that under the time conditions of the experiments the electrical force employed was not capable of exercising any injurious action on the bacteria tested. And it is probable that when in medical practice cases of lupus and certain other cases in which there is an exposed ulcerated surface are treated by "high-frequency" discharges, the results produced are due entirely to the action on bacteria of nitrous and nitric acids formed in the neighbouring air. And from a therapeutic point of view the use of high frequency discharges in such cases must be looked upon mainly as an efficient method for bringing germicidal substances in a nascent and very active condition into contact with the bacteria present in the lesion exposed to the action of the discharge.

NOTE ON A PECULIAR FORM OF HÆMOPTYSIS WITH PRESENCE OF NUMEROUS SPIROCHÆTÆ IN THE EXPECTORATION.

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IN Ceylon I have come across two cases of a peculiar hæmorrhagic bronchitis which perhaps it may be of interest to publish. The first case was a man, a Cingalese, aged 44 years, who consulted me in April, 1904, believing himself to be affected with consumption. The *symptoms* were briefly as follows. He had a chronic cough which was generally more severe in the morning; expectoration was more or less abundant and muco-purulent in character; it was non-nummular and not bad smelling. Now and then for periods of two or three days, or even much longer, the expectoration contained blood, the blood being intimately mixed with the muco-pus and varying in amount; sometimes attacks of genuine hæmoptysis occurred, one or two tablespoonfuls of pure blood being expectorated. The patient had suffered from this complaint for two years. All the other members of his family were in good health and there was no history of syphilis. The disease had begun very gradually and without any apparent cause; his general condition had remained fairly good, although a certain degree of anæmia was noticeable; he had not wasted much. He did not complain of night sweats. He had observed rises of temperature, sometimes in the morning and sometimes in the evening.

By examining the mouth and making him spit and cough I satisfied myself that the blood did not come from the gums. The physical examination of the respiratory system, with the exception of a few moist râles at the base of both lungs, was negative. Nothing abnormal was detected in the heart and circulatory system, neither was anything abnormal noted on examination of the other organs. The analysis of the urine was negative. The microscopical investigation of the blood gave the following result: hæmoglobin (Fleish), 60; red blood cells, 4,000,000; and leucocytes, 11,000. An increase (21 per cent.) was noted in the large mononuclears, though there was no history of malaria. *The sputum* was examined three times for Koch's bacillus but always with negative results. The idea occurred to me that it might be a case of endemic hæmoptysis from distoma Ringeri. I made fresh preparations but no ova could be seen; on the other hand, huge numbers of spirochætæ—or what I thought at that time spirilla—were present. I did not then attach much importance to the observation[1] and was inclined to believe the case to be one of tuberculosis, especially as it is well known that the bacillus of Koch may be often absent when the *sputum* is very hæmorrhagic. I inoculated two guinea-pigs with the expectoration collected in sterile Petri dishes; both animals survived; one was killed two months after inoculation and no signs of tuberculosis were present.

I lost sight of the patient for more than a year during which time he constantly took one of the ordinary hypophosphite compounds I had prescribed. In July, 1905, he turned up again. His general condition had improved; he felt much stronger, though the chronic cough with blood-spitting had not sensibly diminished. Physical examination of the chest was again *negative* with the exception of a very few coarse moist râles as on the occasion of the first examination. The sputum was examined almost every day for three weeks but no tubercle bacilli could be found. Several guinea-pigs were also inoculated again with negative results. The expectoration, especially when much blood was present, was teeming with spirochætæ. The saliva and superficial scrapings from the gums were also examined; some spirochætæ were present but always in small numbers.

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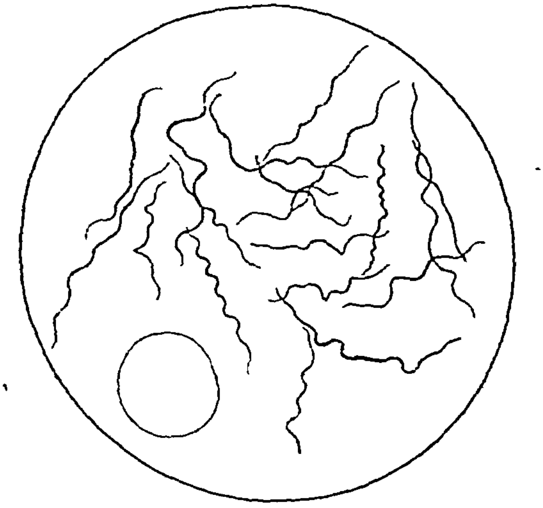
[1] Spirilla or spirochætæ have been occasionally seen in bronchial discharge by several authors long ago (Eichhorst, &c.), but the parasites apparently were alw[illegible]ent in small numbers only.

The second case was that of a male Indian. He presented symptoms similar to those of the first case; he had chronic cough with hæmorrhagic expectoration; also occasional attacks of hæmoptysis when a certain quantity of pure blood was spat up. According to the patient there had never been any fever and he had not wasted. He was extremely nervous; in fact, he had become neurasthenic, thinking he was suffering from pulmonary tuberculosis. The physical examination of the chest showed only a few coarse moist râles on coughing in the lower part of both lungs. The sputum never contained tubercle bacilli and the guinea-pigs inoculated remained healthy. Spirochætæ were always present in great numbers, especially when blood and muco-pus were present in large amount. Spirochætæ could be found also in the saliva and scrapings from the gums but only in small numbers.

The spirochætæ were always very numerous and stained well by the Leishman method, generally taking up a bluish tint; they could be stained also with the ordinary aniline dyes, though not so well. They were generally mixed with some bacteria, but sometimes when the sputum was collected in sterile Petri dishes and preparations made at once they were practically the only germs present. Vincent's fusiform bacilli were never observed. These spirochætæ were not all alike. They might be divided morphologically into several groups. 1. Very thick individually, from 15 to 30 microns in length, with irregular waves which varied in number but were never very numerous. The parasites, with the Leishman method, stained deep blue; they were pointed at both ends. 2. Spirochætæ resembling the spirochæta refringens (Schaudinn) with a few graceful waves and pointed extremities. 3. Thin, delicate spirochætæ with numerous small, rather uniform waves and tapering ends. Sometimes one of the extremities was blunt while the other was pointed. 4. Very delicate parasites, though thicker than the spirochæta pallida, with very few waves generally irregular in shape.

All the types I have briefly described may be seen in the illustration. Similar types may be found, according to my experience, also in spirochætæ observed in the mouth; it might be, therefore, that I had to deal with a bronchial or broncho-alveolar localisation of the spirochæta buccalis, which term, there is no doubt, covers many varieties of spirochætæ.



Showing the various forms of spirochætæ observed.

These two cases of hæmorrhagic bronchitis are of an obscure nature; it seems to me that they cannot be considered of a tuberculous origin. The microscopical examination excludes the possibility of a form of endemic hæmoptysis from distomum Ringeri. It might be suggested, perhaps, that possibly the spirochætæ present in such large numbers in the expectoration—sometimes practically without other germs—may have had a part in the etiology of the complaint. It is interesting to note that Plimmer has noticed in guinea-pigs a peculiar form of pseudo-tuberculosis and that in the smears taken from the pseudo-tuberculous lesions he found numerous spirochætæ.

Colombo.

HYPERTROPHY AND DILATATION OF THE HEART IN A CHILD WITHOUT VALVULAR DISEASE OR GENERAL ADHESION OF THE PERICARDIUM.[1]

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AND

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OCCASIONALLY cases of death from cardiac disease are seen in the post-mortem room not only in adults but also in children in which the ordinary well-recognised morbid affections of the heart are absent. Although such cases are rare, at least in children, that they do not attract attention more often is no doubt due to the fact that the idea that even slight degrees of mitral regurgitation are sufficient to account for death is deeply sunken in the medical mind. An apical systolic murmur has been heard during life and after death deformity of the mitral cusps is looked for and not perhaps uncommonly found without sufficient reason. One often hears of the expression "thickened edge of mitral" as if the thickened edge were sufficient to account for death. The so-called thickened edge is frequently merely the normal thickening which is situated where interlacing of the fibres of the chordæ tendineæ takes place at their insertion into the mitral cusps. This is made perfectly clear on holding up the large mitral cusp against the light, when the course of the fibres of the chordæ tendineæ between the layers of endocardium forming the cusp can be readily seen. Although, however, we have frequently seen this normal band of thickening considered to be evidence of disease it is needless to say that abnormal thickening may be present in the same situation. When thickening of the mitral valve occurs it affects the fibres of the chordæ tendineæ from their origin at the apices of the musculi papillares to their termination at the mitral ring. As might be expected, this thickening of the fibres of the chordæ tendineæ is most evident where the normal interlacing takes place—that is, at their insertion into the cusps of the mitral valve. Such a band of thickening cannot, however, interfere with the action of the valve. Should regurgitation be present it is generally mainly due to shortening of the chordæ tendineæ, which shortening prevents efficient closure of the cusps. Slight degrees of mitral regurgitation can, however, hardly account for death and certainly cannot explain considerable general dilatation of the heart.

In the case recorded below slight thickening of the mitral cusps of the character which we have indicated was present, but was not sufficient in degree to have interfered in any way with the action of the valve. Mitral regurgitation was present, but in this case it was secondary to dilatation of the orifice, not to shortening of the chordæ tendineæ. The following are brief notes.

A boy, aged eight years, was sent to the North-Eastern Hospital for Children on Sept. 10th, 1905, by Dr. John Spurway of Brondesbury to be admitted under the care of one of us (G. C.). One year previously the boy had suffered from slight "heart trouble," and four months before admission there had been swelling of the elbows, knees, and hands. On admission the cardiac impulse was in the left fifth interspace outside the nipple line. A systolic murmur was present at the apex and a reduplicated second sound over the pulmonary area. On Nov. 6th the liver was noted as being two inches below the costal margin. The cardiac dulness extended also over one inch to the right of the sternum. In addition to the systolic murmur at the apex a to-and-fro sound was heard at the base which Dr. Carpenter considered might be either endocardial or pericardial. The pulse was 140. Some œdema of the legs was present. On the 30th the basic murmur was still present and the pulse was still 140. The œdema of the legs was less. On Dec. 11th it is interesting to note that although the boy was in other ways worse the œdema of the legs had disappeared. He died on Jan. 2nd, 1906.

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[1] A paper read before the Society for the Study of Disease in Children on Jan. 19th, 1906

At the necropsy the body was found to be wasted. There was no trace of œdema of the legs. The heart was much dilated. It extended from the junction of the cartilages and ribs on the right side to one inch outside the nipple line on the left; it weighed 10½ ounces. The pericardium was perfectly healthy, except that a few small petechiæ were present over the back of the auricles. Nothing could be found to account for the basic murmur. The pulmonary and aortic valves were both competent to the water test and the cusps were free from thickening. The tricuspid orifice was much dilated; it admitted four fingers, but the cusps were healthy. The mitral orifice was also dilated; it admitted three fingers. The chordæ tendineæ were slightly thickened but not shortened. There was no deformity of either the large or the small flap. "Water-marking" of the interior of the left auricle showed that there had been regurgitation through the mitral orifice during life. The cardiac muscle was pale but to the naked eye there was nothing definitely abnormal. The liver extended three inches below the costal margin; on section it presented the characteristic nutmeg appearance. There was nothing noteworthy about any of the other organs except the lungs, which were dotted over with small circular petechiæ. Microscopical examination of the heart muscle showed a few fibres in which fatty degeneration was considerable and many others in which small granules were scattered throughout the fibres, but the amount of fatty degeneration was not greater than is frequently seen in death from almost any cause. There was little or no increase of interstitial tissue. The microscopical examination threw no light upon the nature of the hypertrophy and dilatation.

As has already been mentioned, the main morbid condition present was dilatation, associated with hypertrophy of the heart, and the question of the causation of this dilatation and hypertrophy presents itself for consideration, as it does in all cases in which valvular disease and general adhesion of the pericardium are absent. In adults there are several causes of such a morbid condition of the heart, but in children possibly almost the only cause is rheumatism. Symptoms of cardiac weakness appear to have occurred in this boy before swelling of the joints was noticed, yet the fact that rheumatism definitely had at one time been present strongly suggests that there had been also an earlier attack which had fallen mainly upon the heart.

The idea, however, that rheumatism, apart from valvular disease and general adhesion of the pericardium, can cause enlargement of the heart may appear fanciful. Let us consider for a moment, however, the enlargement which occurs in association with pericarditis due to rheumatism. In such cases not only dilatation but hypertrophy of the heart may be remarkably rapid. We have seen pericarditis develop in a girl, aged 11 years, while under treatment for chorea and cause death within a fortnight, at the end of which time the heart was more than double the normal weight for a child of that age, and such an event, which was noticed many years ago by Dr. J. F. Goodhart, is by no means uncommon. No other disease but rheumatism produces such a rapid increase in weight of the heart. It may be said that such rapid increase of weight must be due to imbibition of fluid. That may be so, but the heart does not return to a more normal size when the inflammation of the pericardium has subsided. On the contrary, the hypertrophy is generally progressive and the enlargement may become so great that even a child 12 years of age may possess a heart weighing 30 ounces. Barnard, Sequeira, and others have given a simple explanation for the dilatation of the heart in pericarditis. They consider that the pericarditis causes softening of the fibrous pericardium, which yields and allows dilatation of the heart. Hypertrophy follows this dilatation. If, however, softening of the fibrous pericardium were the explanation of dilatation of the heart associated with pericarditis, the dilatation should occur not only in rheumatic pericarditis but in other forms of pericarditis. But in forms of pericarditis equally, if not more virulent, such as the suppurative pericarditis of pneumonia, or of pyæmia, little or no dilatation of the heart takes place. This absence of dilatation in suppurative pericarditis one of us (T. F.) has long pointed out in the post-mortem room and mentioned it in reply to Dr. J. H. Sequeira at a meeting of the Society for the Study of Disease in Children in October, 1900. It is interesting to note, however, that Dr. G. F. Still has since commented upon the same fact.[2]

Since the difference in degree of the dilatation of the heart which occurs in association with rheumatic pericarditis and in suppurative pericarditis is very great, it seems clear that the dilatation rests upon no such simple causation as yielding of the fibrous pericardium. It depends, we believe, upon something more subtle, upon a poisoning of the heart which affects it chiefly in this way during the growing period of life. After the age of 20 years rheumatic pericarditis causes little or no dilatation of the heart. Allowing, however, that the enlargement of the heart is due to rheumatic poisoning, it is nevertheless true that such enlargement is rarely seen to follow rheumatism unless pericarditis has been present. But this is not surprising. Pericarditis is, no doubt, an evidence of the most intense form of rheumatic infection of the heart, and to get infection which attacks the cardiac muscle while the pericardium escapes can hardly be expected to be common. It must also be remembered that some general cardiac hypertrophy is not uncommon in mitral stenosis. To explain hypertrophy of the left ventricle on mechanical grounds in mitral stenosis is not easy. It seems far more reasonable to allow that the hypertrophy is the result of some interference with the nutrition of the cardiac wall by the rheumatic poison. But however that may be, cases are undoubtedly to be seen from time to time of enlargement of the heart without valvular disease and without general adhesion of the pericardium in children who have suffered from rheumatism, and it is reasonable, in the absence of evidence of other causation, to attribute that enlargement to the rheumatism.

OSSIFICATION OF THE FONTANELLES AND CLOSURE OF SUTURES AT BIRTH—A CAUSE OF DIFFICULT DELIVERY.

By T. LEAHY-LYNCH, L.R.C.P., L.R C.S. & L.M. EDIN., L.F.P.S. GLASG.

A PRIMIPARA, aged 33 years, with vertex presentation in the first position, who was in labour for the usual number of hours, completed the first stage normally. I ruptured the membranes and left the patient a reasonable time to complete the second stage, but she exhibited failing strength and asked for my help. She was very nervous, so I determined to send for my partner, Mr. R. J. Mackay, to give an anæsthetic and to deliver her with forceps. She was got well under anæsthesia and the forceps was applied, but the handles were separated when the instrument was locked. Delivery was much more difficult and took longer than had been anticipated. For this I endeavoured to find a cause. The third stage over, I examined the baby's head; there were *no moulding*, no overlapping of the parietals over the frontal and occipital bones, and no overlapping of the parietal bones themselves; there was no trace of a posterior fontanelle or of those at the anterior inferior angles of the parietals; there was a mere depression over the anterior fontanelle or bregma; the sagittal suture was closed as well as the frontal, the coronal, and the lambdoid. In fact, ossification was complete in the fontanelles and sutures. The child was a healthy male, 21 inches in length, and weighing eight and a half pounds. No hydrocephalus was present. The blade of the forceps marked the infant slightly over the left mastoid region. The mother displayed symptoms of puerperal insanity on the third day. She rambled, wanted to get out of bed, looked strange, buried her head in the pillow, took little notice of her surroundings, would scarcely answer when spoken to, and would not take nourishment. She had diarrhœa, anorexia, and the breasts were empty. The temperature and lochia were normal. She was kept quiet and the baby was taken away; large doses of bromide of potassium and aromatic spirit of ammonia were given, after which several hours' rest were obtained and the symptoms quickly passed off. The breasts filled and the patient became quite well.

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[2] Brit. Med. Jour., vol. ii., 1901, p. 606.

My object in recording these facts is to show that the shock of delivery must have been very severe for the patient. The text-books give little information on this point. Herman's "Difficult Labour" does not mention it. Galabin (p. 93) mentions that "the male head is more firmly ossified at birth than the female skull, is half an inch more in circumference; hence arises greater protraction of labour in the case of males, more frequent necessity for artificial aid, and greater mortality both to mothers and children." Cazeaux and Tarnier's "Theory and Practice of Obstetrics," vol. iii., p. 839, states: "To this cause, dystocia, our colleague and friend, Dr. Joulin, Adjunct Professor of the Faculty of Medicine at Paris, devoted a long chapter of his thesis for the Concours. According to him the Germans admit that trouble may be due to the size of the head alone, besides which they also call attention to a peculiarity of the ossification little known in France, which adds to the difficulty of the situation—viz., the development of Wormian bones in the fontanelles causing their solidification." "It is very hard to determine what ought to be done in cases of this kind; it is almost impossible to become aware of the size of the child whilst it is still within the womb, so that the practitioner who finds the progress of the case arrested in an apparently well-formed pelvis will very probably decide upon active interference before the true cause of the delay is detected and apply the forceps or cephalotribe according to the amount of difficulty which the size of the head shall present to its extraction" (Joulin). "The fontanelles at inferior angles of parietal bones close soon after birth. The posterior fontanelle closes in a few months, the anterior remaining open until the first or second year. Sometimes this fontanelle remains open beyond two years, and occasionally persists throughout life" (Gray).

I shall be glad to know if this condition is often met with and the best means of its diagnosis, as the guides to the fontanelles—viz., the sutures—were in this case closed.

Finsbury Park road, N.

A NOTE ON THE INFLUENCE OF ANTITOXIC SERUM ON THE TUBERCULO-OPSONIC INDEX.

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WHILE preparing a paper on the opsonic index, a paper which was read jointly with Dr. E. E. Glynn on May 3rd before the Liverpool Medical Institution and which will be published in full in the summer number of the *Liverpool Medico-Chirurgical Journal*, I made a number of estimations for the purpose of ascertaining for myself the fact generally accepted that the tuberculo-opsonic index is practically the same in all non-tuberculous individuals. On one particular day I determined the index of seven persons, free from all suspicion of tubercle, four medical men, two nurses, and a young man, D., in my ward who was recovering from an attack of neuritis, the result of diphtheria, for which he had been treated with antitoxic serum about three months before. The index of the first six worked out well within the accepted normal limits of variation but to my surprise the index of the patient was only half the average of the others. The following are the exact figures: Dr. B., 1·14; Mr. S., 1·05; Mr. C., 0·97; Mr. H., 0·96; Nurse A., 0·95; and Nurse B., 0·92; average 1·00. Patient D., 0·47. The other counts agreed so closely that I felt confident I had made no mistake in carrying out the estimations and I was inclined to suspect that the patient in question had some local tuberculous infection which I had not been able to discover. My late house physician, Mr. C. H. Smith, however, suggested that the low index might be a consequence of the inoculation with antidiphtheritic serum three months before. One of his colleagues, Mr. W. Yorke, had noticed a marked depression of the tuberculo-opsonic index following the administration of a prophylactic dose of antitetanic serum given to a healthy man who had reason to fear he had exposed himself to the risk of inoculation with tetanus. To test the correctness of this explanation I took the tuberculo-opsonic index of eight other individuals who had been treated with antidiphtheritic serum. In three of the cases a second estimation was made after an interval. The following table shows the opsonic index in each case and the time which had elapsed between administration of the antidiphtheritic serum and the estimation of the index.

No. of case.	Interval since the antidiphtheritic serum was administered.	Index.
1	2 days	1·30
	5 ,,	0·64
2	12 ,,	1·02
	25 ,,	0·35
3	27 ,,	0·89
	41 ,,	0·72
4	25 ,,	0·64
5	26 ,,	0·72
6	26 ,,	0·62
7	27 ,,	0·77
8	28 ,,	0·69
9	3 months.	0·47
Average		0·73

It thus appears that in all the nine cases examined the tuberculo-opsonic index was found below the normal at some period subsequent to inoculation with antidiphtheritic serum. The depression seems to have increased for some time and in Case 9 to have persisted for months. Cases 1 and 2 suggest that the immediate effect of the inoculation is to raise the tuberculo-opsonic index but the data are too scanty to enable us to generalise on this point. It is obvious that it must be of the utmost importance to bear in mind the possibility of some such cause as was present in the foregoing cases before giving an opinion on the significance of a low opsonic index. As to the nature of the influence of the antitoxic sera, antitetanic as well as antidiphtheritic, on the opsonic index it is premature to offer any positive opinion. It is not unreasonable, however, to assume that it is due to some property inherent in the blood of the horse and has nothing to do with the specific antitoxins.

I have to thank my present house physician, Mr. G. L. Cox, for his assistance in carrying out the estimations.

Liverpool

EXTENSIVE RUPTURE OF THE LIVER WITHOUT EXTERNAL INJURY.

BY F. SEYMOUR LLOYD, M.D. LOND.

AT 9.30 P.M. on May 1st I was called to see a brewer's drayman who had just been brought in by his companions and found him to be dead. As no one witnessed the accident it is impossible to say exactly how it occurred, but it seems probable that as the man was in the act of mounting to the box his horses started off suddenly and trying to pass a dray standing just in front of them squeezed his body between the projecting hoods of the two vans. The first intimation that anything was wrong was received by the driver of the first van who, surprised to find the second van starting before his own, looked down and saw it passing with the deceased hanging by the hands to the stays just below the hood. Immediately the dray forged in front, however, he let go his hold, regained his feet, and darted on to the sidewalk where he leaned against a parapet with his head on his left arm and his right hand compressing his abdomen. He appeared to be in great pain and made as if to vomit, but did not do so; after a little while he tried to pull himself together and said, "All right, mate, I'll drive them home." These were the only words he was heard to utter. He then, unaided, mounted to his box and drove the horses a distance of about 400 yards when the draymen following with other vans saw his head fall over to the right. They ran and stopped the horses and carefully lifted him down from the box and laid him comfortably inside the dray on a bed of straw. Here he lay groaning and rolling uneasily about. He was last heard to groan when about two and a half miles from Luton, where he arrived half an hour later, when I was called to him. The head and hands were pale and icy cold, the trunk being just warm to the touch. The body and limbs were flaccid throughout. The features were pale but composed and the expression was peaceful. Urine and fæces had been passed into the clothing. Careful examination of the body failed to reveal any bruise, discolouration, or other evidence of injury other than two small scratches, one on the right malar process and the other on the tip of the left ear. There was no sign of bleeding from the nose or mouth, though there were small recent bloodstains on his apron; these possibly came from the scratch on his cheek. The abdomen was much distended and highly tympanitic except for a space of two and a half inches in the flanks, more markedly in the right flank. The man was a magnificent specimen of humanity and measured six feet five inches as he lay on the mortuary table. He had been known for his strength and was extremely popular with his comrades.

In accordance with instructions from the coroner I performed a necropsy on the afternoon of May 3rd, 42 hours after death. The body was rigid throughout and post-mortem staining was marked especially in the neck and shoulders. On opening the parietes the abdominal cavity was found to contain a large quantity of thin dark blood; there were also numerous flocculent clots of small size entangled in the meshes of the omentum and between the coils of the intestines, and in the right hypochondrium were larger clots varying in size from that of a marble to that of a fowl's egg. The liver was retracted well under the ribs and only a small portion of the left lobe was visible at the epigastric angle. It was carefully removed and presented the following appearance. The liver was large in conformity with the splendid development of the subject; it appeared pale, but was perfectly healthy in substance. Through the thickest portion of the right lobe was a tremendous fissure, running backwards through both capsule and glandular substance from the anterior edge to the posterior surface, and being so complete that the liver was all but divided by it into two portions, only a narrow bridge of liver tissue about an inch thick connecting them. The fissure was straight and was eight and a half inches long, the surfaces exposed by it being rough and granular looking. The greatest breadth of the torn surface was roughly four inches, tapering thence to a point towards the anterior edge. About the centre of this fissure was another contused tear three inches long running perpendicularly to it outwards to the right; this, however, only penetrated the liver substance for a depth less than half an inch; one or two smaller tears radiated from the point of junction of the major tears in a stellate manner. The gall-bladder and the rest of the liver were normal, as were all the other abdominal viscera. The intestines were collapsed and the stomach was empty. There was no fracture or injury to any of the ribs or the spine. The lungs were normal but were very retracted and pale. The heart was normal. Death evidently resulted from shock and internal hæmorrhage. The deceased had been a most temperate man.

Remarks.—The case furnished several points of interest. 1. The remarkable length and completeness of the rupture. 2. The fact that there was no concomitant injury to the bones or soft parts. This may be accounted for in three ways: (*a*) The thickness of the man's clothing, apron, coat, &c., the evenings being chilly. (*b*) The force was not an instantaneous force delivered by an instrument of small surface area but was presumably a rolling force of large area represented by the surfaces of the board hoods The effect of one dray moving would be to give a "spin" to the body comparable to the action of a mangle. It would thus be squeezed, the pressure increasing until the moment of closest approach of the drays, and lessening as they drew apart. The capsule of the liver stood this severe strain as long as it could and then, the force still continuing to act, burst open. (*c*) His muscular development. In this young (he was 28 years of age) muscular man the elasticity of the ribs responded well to the strain. 3. That in a case of such extreme injury the sufferer should be able to walk and to mount his box, no easy feat as I proved for myself. Also that he should be able to drive for 400 yards. 4. The very rapid cooling of the body owing to the abstraction of blood from the extremities. Though he could not have been dead for more than half an hour at the most the trunk was only just warm.

Luton.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

LONDON HOSPITAL.

A CASE OF LIGATURE OF THE COMMON FEMORAL ARTERY AND VEIN; GANGRENE; AMPUTATION; RECOVERY.

(Under the care of Mr. J. HUTCHINSON, jun.)

FOR the notes of the case we are indebted to Dr. H. F. Horne, late house surgeon to the hospital.

A butcher, aged 22 years, was admitted into Cotes ward of the London Hospital on Sept. 1st, 1905, suffering from severe hæmorrhage and collapse. The history of the case was that while engaged in his occupation and dismembering a carcass the double-edged knife he was using slipped and entered the right thigh. On admission he was much collapsed, almost pulseless, the lips were much blanched, and his clothing was saturated with blood. A pad had been applied over the wound and tightly bandaged. No pulsation could be felt in the posterior tibial artery. Ether was administered immediately on admission and a transverse wound was found in the right thigh one inch in length, situated one inch below Poupart's ligament, through which opening blood flowed freely on removing the pad. By digital pressure the iliac artery was compressed against the brim of the pelvis and a longitudinal incision five inches in length was made in the line of the artery and exposed the femoral vessels. The vein and artery were both partially severed and had retracted, a small piece of the vessel wall connecting the upper and lower portions in each case. The upper portions which had retracted under Poupart's ligament Dr. Horne pulled down with Spencer Wells's artery forceps and applied silk ligatures to each by means of an aneurysm needle, the anterior crural nerve being held out of the way. The lower segments of the vessels were similarly dealt with. The wound was partially closed with silkworm-gut sutures and plugged with sterilised gauze. After the vessels had been secured four pints of normal saline solution were injected into the basilic vein of the left arm and the patient was given half a grain of morphine hypodermically on recovering from the anæsthetic, which caused considerable improvement in the pulse. The patient was kept fully under the influence of morphine for the succeeding 48 hours. The leg and foot were thoroughly cleaned and every precaution was taken to keep up the circulation of the limb. With division of both artery and vein it was scarcely to be expected that gangrene could be averted.

The wound was dressed on Sept. 3rd and was found to be quite healthy. Discolouration of the skin had appeared on the foot and extended up the leg to within three inches below the knee. During the following 12 days the wound was continually redressed and gradually closed. The toes and foot gradually became mummified, the gangrene apparently not spreading higher up the leg, and the temperature kept normal. On the 16th the gangrenous area had extended to the upper end of the tibia; the leg was swollen and green, smelling offensively, and one or two small blisters had appeared on it. The pulse was slightly quickened and the temperature had risen to 102·5° F. By the following day the area of gangrene had reached the upper border of the patella. Dr. Horne therefore amputated at the junction of the upper and middle thirds of the thigh by a longitudinal external and circular incision round the thigh. The femoral vein was seen much shrunken and contained a hard clot. The lower segment of the femoral artery was found to be of the size of a goose quill and feebly bleeding; the surrounding tissues seemed healthy. Three pints of normal saline solution were injected intravenously during the operation as the patient became collapsed. The wound was closed with silkworm gut sutures, a large spiral rubber drainage-tube being left in.

On the morning of Sept. 18th a dark patch of discolouration appeared at the inner angle of the wound, the remainder of the stump being quite warm. The temperature was 100° and the pulse was 102 and strong. On the following day a dark green patch of gangrene appeared at the inner side of the stump. On taking out the sutures the end of the stump was found to be in a sloughing foul-smelling condition and was accordingly syringed out at hourly intervals with peroxide of hydrogen solution, packed with iodoform and boric powder in equal parts, and enveloped in hot lysol fomentations. The patient's temperature was 103·5°. On the 21st the temperature was 100·5°; the gangrene had not spread and small pieces of the slough were beginning to separate. On the 23rd the wound appeared more healthy, some slight bleeding occurring from both flaps. The temperature was 99° and the pulse was 100. By the 25th some pus exuded from the wound on pressure and the under surfaces of the flaps began to show signs of granulation. The dead tissues were completely removed on the 28th; the stump appeared to be quite healthy and granulation tissue was appearing. The cut end of the femur projected from the muscles but no pus exuded from the bone. The iodoform and boric powder were now discontinued, the wound being plugged with wool soaked in hydrogen peroxide. The fomentations were still continued. The incision made for ligating the vessels had completely healed by Oct. 3rd and the stump was gradually healing. On the 23rd the flaps were trimmed and the projecting piece of bone was removed. The wound was sewn up and a drainage-tube was left in, which was removed on Nov. 7th. There was no further rise of temperature and the patient left the hospital early in December.

Remarks by Dr. HORNE.—As an uncommon case of emergency surgery I have thought the above sufficiently interesting to be placed on record. The opportunity is rarely afforded of surgical interference in wounds involving the main vessels, for before assistance can be obtained so severe an injury usually proves rapidly fatal. On referring to the literature on the subject I find that Mr. A. Pearce Gould in THE LANCET of Feb. 5th, 1887, p. 258, publishes a case of a wound of the common femoral vein and secondary hæmorrhage from the common femoral artery followed by septicæmia and death. In this article he gives a table of nine cases of wounds of the femoral artery and vein collected from various sources. Of these two died in a few minutes after the accident, one case recovered, and six died subsequently to the operation, two of whom developed gangrene. At a meeting of the Clinical Society of London in 895 Mr. C. S. Wallace showed a case in which the femoral essels were tied for secondary hæmorrhages, the patient making a perfect recovery.[1]

I wish here to acknowledge the kindness of Mr. Jonathan Hutchinson, jun., in allowing me to perform the amputaion when it became necessary and to publish this case.

Note by Mr. J. HUTCHINSON, JUN.—The extreme gravity of wounds of the common femoral vessels is well illustrated by the case now recorded by Dr. Horne and by those alluded to in Mr. Pearce Gould's table. To these I can add one more—a youth who died very soon after severance of the femoral artery by a chisel. Thus, out of a total of 11 cases only two recovered, including the man who owed his life to Dr. Horne's prompt interference. With regard to this case the right course after securing the divided vessels was undoubtedly followed—that of waiting to see how far the gangrene would extend. Up to the end of a fortnight, when the patient had quite recovered from the primary shock and loss of blood, we hoped that an amputation just above the knee-joint would suffice; but then the gangrenous process rapidly spread, changing from the dry to the more dangerous moist form, and the symptoms of septic absorption forbade any further delay. The sloughing which followed high amputation was unexpected and most alarming; indeed, with such a large septic surface it looked as though the patient could hardly recover. The result ultimately attained was very satisfactory.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.

A CASE OF CONTRACTURE OF THE HAND TREATED BY RESECTION OF PORTIONS OF THE BONES OF THE FOREARM.

(Under the care of Mr. CHARLES A. MORTON.)

A BOY, aged 10 years, was admitted to the Bristol Hospital for Sick Children on March 4th, 1904, with the history that eight months before he had fractured the bones of the left forearm. Splints had been at once applied and were kept on for a month. The patient was seen by the medical attendant the day after the splints were applied and they were loosened by him a week later. The mother said that when the splints were taken off the forearm was "quite rotten" on both sides and that later the skin came off and the hand became gradually bent. It was clear from the history that he could move his fingers and that there was no contraction when the splints were removed, but how much he could move his fingers and whether contraction had been prevented up to that time by the splint reaching to the ends of the fingers there was no means of ascertaining. The contraction of the hand was increasing at the time he went into hospital. There were deep, dense scars on both aspects of the forearm but especially the flexor, as if the muscles as well as the skin had sloughed. The hand was fixed in the flexed position, quite at a right angle with the forearm, and the only movements possible were those of the index and middle fingers and these were very slight. There was no anæsthesia. When the boy attempted to move the fingers the muscles of the forearm were seen to contract down to the level of the scar tissue but not beyond. As the contraction was so great and the structures on the flexor aspect of the forearm were so matted together and to a large extent even destroyed, it seemed clear that only shortening of the bones would allow the hand to be straightened. Mr. Morton did not expect to get much use in the hand. The boy had been taken to another hospital before going to the Children's Hospital and the mother had then been told that the only thing to do was to amputate the hand and therefore she was content to have anything done which would be likely to give her child a hand as useful as, or a little more useful than, an artificial one.

On March 23rd Mr. Morton resected an inch of both the radius and ulna so as to permit the wrist to be straightened, and wired the ends of the bones together. The wound united by primary union and the bony union was quite satisfactory. The wires were later removed. A few weeks after the operation he could slightly move all the fingers but not the thumb. Two months later, after frequent massage and passive movements he could move the fingers a little better and had a very feeble grip. A leather splint was applied to prevent re-contraction of the wrist and he was sent to his home in Wales at the end of June. Mr. Morton saw him again in May, 1905, when he found that the continued use of the leather splint had prevented any re-contraction of the wrist but that the use of the hand had not returned to any great extent. It was, however, better than an artificial hand. The patient could pick up light things between the thumb and the ring finger, and could flex all the fingers and the thumb at the metacarpo-phalangeal joints. The ring finger was considerably flexed and the middle finger was slightly flexed.

Remarks by Mr. MORTON.—As few cases of contracture of the hand treated by resection of the bones of the forearm have been published, the report of the foregoing case may be of value. As I did not see the boy until eight months after the fracture I cannot say whether it was a case of true ischæmic paralysis or whether the loss of power and contraction was wholly due to the destruction of the muscles by sloughing and the contraction of the scar tissue. Sloughing from the pressure of the splints is very common in Volkmann's contracture and it is quite possible that the two conditions were associated in this case.

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[1] THE LANCET, Nov 30th, 1895, p 1364.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

General Meeting.—Operation for the Radical Cure of Femoral Hernia.—Appendicitic Abscess associated with Multiple Liver Abscesses.

A GENERAL meeting of this society was held on May 14th, Sir LAUDER BRUNTON, the President, being in the chair.

The following was the result of the election of officers and council for the ensuing year:—President: Mr. C. A. Ballance. Vice-Presidents: Dr. W. Pasteur, Mr. C. W. Mansell Moullin, Mr. John Tweedy, and Sir Edgcombe Venning. Treasurer: Mr. D. H. Goodsall. Librarian: Dr. A. F. Voelcker. Honorary secretaries: Mr. C. S. Wallace and Dr. F. J. Poynton. Honorary Secretary for Foreign Correspondence: Mr. H. J. Waring. Council: Mr. R. C. Bailey, Sir Hugh Beevor, Bart., Mr. C. Carter Braine, Dr. J. F. H. Broadbent, Sir Lauder Brunton, Dr. H. A. Caley, Dr. Edmund Cautley, Dr. G. H. A. Comyns Berkeley, Dr. J. H. Drysdale, Lieutenant-Colonel R. W. Ford, R.A.M.C., Dr. A. E. Garrod, Mr. Francis Jaffrey, Mr. T. H. Kellock, Mr. John Langton, Dr. C. A. S. Leggatt, Dr. Percy J. F. Lush, Dr. F. S. Palmer, Dr. J. S. Risien Russell, Mr. H. P. Symonds, and Mr. W. H. C. Staveley.

The annual reports of the council, honorary librarian, and chairman of the house and finance committee were presented and adopted.

An ordinary meeting was then held and

Mr. W. H. BATTLE read a paper on a Method of Operation for the Radical Cure of Femoral Hernia. He commenced by saying that it was more difficult to deal with large femoral herniæ than with those of similar size in the inguinal region. There was also a greater tendency for the ring to enlarge. The operation he was about to advocate was first performed by him in 1899.[1] After thoroughly cleansing the parts a vertical incision was made over the sac and the contents were dealt with in the usual way. The object of the operation was to form two flaps, an inner and an outer, and to slide the inner behind the outer, securing it over the upper opening of the femoral canal. These flaps were then sutured in position and thus a shutter of living tissue of great strength was placed below the ligatured neck and across the upper end of the femoral canal. Usually no drainage was required. In only one case was the wearing of a truss necessary afterwards. Including the cases mentioned in his paper in THE LANCET in February, 1901, Mr. Battle had operated in this way on 64 cases of femoral hernia for its radical cure. One case was under 20 years of age, 14 cases were between 20 and 30, 23 cases were between 30 and 40, two were between 50 and 60, and two were over 70. The duration of the hernia had varied from a few days to 20 or 30 years. 30 cases were reducible, 30 were irreducible, and four were strangulated. In only four cases did any suppuration ensue. There were no deaths. Only one patient had returned with a recurrence of the hernia, but it was only right to mention that some had been only recently operated on. A somewhat similar operation had been described independently by Mr. R. H. Parry[2] in October, 1901, only he advocated the suturing of the conjoined tendon of Poupart's ligament to Cooper's ligament. In conclusion, Mr. Battle claimed the following advantages for the operation which he had described: (1) the suppression of every trace of the peritoneal infundibulum by the application of a ligature to the highest possible level of the hernial sac, (2) the annihilation of the femoral ring; and (3) the replacement of the septum crurale by a strong musculo-aponeurotic screen. Cases were narrated and illustrated by lantern slides.—Mr. CUTHBERT S. WALLACE remarked on the difficulties of closing the internal ring in such cases and the rigidity of the parts around and the proximity of the great vessels. He thought the operation was a good one and he believed the main cause of its success lay in the application of the three sutures along the line of the inguinal canal which were freed from tension by the second flap. The results of this operation seemed to be very good.

One of the Hon. Secretaries read (for Mr. H. J. CURTIS of Bulawayo) a paper entitled, "A Successful Case of Appendicitic Abscess associated with Multiple Liver Abscesses." The patient was a man, aged 35 years, who had suffered from malaria, dysentery, and syphilis in the preceding years and was admitted to the Bulawayo Memorial Hospital on Oct. 13th, 1904, with a history of one month's abdominal pain. The temperature was 99·8° F., the pulse was 128, and the respirations were 52. There was tenderness at McBurney's point but no swelling. On Oct. 18th a tender swelling appeared in front of the right kidney. On the 19th the abdomen was opened and an inflamed, red, and kinked appendix was removed from behind the cæcum. While this was being done an abscess over the kidney was opened and a large tube was inserted. The abscess was not in contact with the appendix and reached up to the costal margin. On the 31st a large abscess in connexion with the liver was opened through the right tenth intercostal space. The pus was of the "anchovy paste" variety. On Dec. 11th the same kind of pus was noticed in the sputum and on the 16th there was severe hæmoptysis. On the 17th the liver abscess was further explored and a larger tube was introduced. Iodide of potassium in increasing doses was now given and steady improvement was maintained until the patient was discharged on April 1st, 1905. Mr. Curtis then reviewed the details of the case and pointed out as remarkable the absence of high fever when the patient first came under observation. It was open to doubt if the abscess was dependent on the appendix trouble or on the dysentery from which the patient had previously suffered. Amœbæ were found in the pus and probably the appendicitis was an accidental complication of tropical abscess of the liver. The prognosis of liver abscess complicating appendicitis and the frequency of this association were finally discussed.—The PRESIDENT, commenting on the use of iodide of potassium, drew attention to the extremely large doses which could be tolerated with advantage in such cases.—Mr. BATTLE discussed the association of the two lesions and the likelihood of their being accidentally or causally connected. Possibly the hepatic lesion was tropical abscess and the appendicitis simply concurrent.

CLINICAL SOCIETY OF LONDON.

Cystic Tumour of the Spermatic Cord.—Carcinoma of the Thyroid Gland.—Perforated Gastric Ulcer treated by Evisceration and Irrigation.—Complete Removal of a Multilocular Cyst of the Pancreas.

A MEETING of this society was held on May 11th, Mr. H. H. CLUTTON, the President, being in the chair.

Mr. CUTHBERT S. WALLACE described a case of Cystic Tumour of the Spermatic Cord. A man, aged 41 years, was admitted to St. Thomas's Hospital in 1904 with what appeared to be an irreducible inguinal hernia and gave a history of abdominal pain and vomiting. However, at the operation a tumour was revealed which consisted of two main cysts with numerous smaller ones, the whole mass lying in the cord beneath the cremaster muscle. At the internal ring the tumour disappeared within the abdomen and could be felt to form a considerable mass in the pelvis. The inguinal portion of the tumour was excised. The operation was followed by recovery with atrophy of the testis from damage to the spermatic artery. Mr. Wallace regarded this case as being of the same type as those described by the older writers under the title "diffuse hydrocele of the cord." Percival Pott in 1773 was the first to describe the condition and he was of the opinion that it was of the nature of an œdema and this view was the one still put forward in English books which make mention of the subject. Mr. Wallace believed that this explanation could not be accepted. The so-called cystic adenomata of the testis and kidney were supposed to arise in remains of the Wolffian body and in their construction were very similar to the tumour under discussion. When the original relation of the testis and kidney was borne in mind it seemed possible that the fœtal remains found in these two organs might also be found in the spermatic cord. It appeared, therefore, not improbable that "multilocular cystic tumour of the spermatic cord" had a similar origin in remains of the Wolffian body.—Mr. E. PERCY PATON referred to a female patient, 30 years of age, whom he had seen for irreducible hernia. A small cystic tumour was found in the inguinal canal similar in character to that described by Mr. Wallace.—Mr. T. H.

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[1] THE LANCET, Feb. 2nd, 1901, p. 302.
[2] Brit. Med. Jour., Oct. 19th, 1901.

KELLOCK thought that such tumours resembled rather the tumours known as hydrocele in the neck, and asked if the fluid had been examined. Another possibility which had occurred to him was whether the tumour might have been an abnormally placed and cystic kidney.—The PRESIDENT quoted a case like that narrated by Mr. Wallace and thought the subject should be referred to more in current text-books. The condition was certainly not a diffuse hydrocele of the cord as at present described in text-books.

Mr. A. C. HUDSON read a paper, illustrated by the epidiascope, on Carcinoma of the Thyroid Gland. A description was given of eight cases of tumour of the thyroid exhibiting the characters of malignant invasion and of six other cases in which, although the ordinary clinical features of malignant disease were absent, the tumours showed the histological structure of carcinoma. Two tumours discovered at necropsies were also described. Reference was then made to the mode of origin of the capsule of a simple adenomatous thyroid tumour and its possible significance in the study of the behaviour of carcinomata. The cases described pointed to malignant disease of the thyroid being somewhat commoner and at the same time more amenable to surgical treatment than was perhaps generally believed. These cases also emphasised the difficulty likely to be experienced in correctly estimating the degree of malignancy of epithelial thyroid tumours solely from the type and arrangement of the epithelial cells and other histological features. There were, moreover, cases of undoubted carcinoma in which metastasis did not occur and the histological structure of these tumours presented various transitional forms.—The PRESIDENT referred to several cases of carcinoma of the thyroid which he had operated upon. The first of these he met with in 1886 and the next in 1903; both of these patients were still living. In another case met with in 1905 the diagnosis presented some difficulty; the tumour was partially removed and although the growth had perforated the trachea the patient did well. Speaking of the diagnosis, the President said that malignant growths, though they might be very small, were more firmly adherent to the trachea than adenoma or any other tumour and were very often encapsulated. The clinical history of such cases was very different from carcinoma in other places, as the tumour was so much slower in its progress.—Dr. C. W. WIRGMAN had seen several cases in which the bones had become secondarily involved, although some of these cases had resembled adenomata in their clinical and microscopical characters.—Mr. W. G. SPENCER remarked that thyroid carcinoma appeared to have such special features of its own that it would perhaps be better to describe cases like those narrated by Mr. Hudson by a special designation, such, for instance, as adeno-carcinoma.

Mr. E. W. ROUGHTON communicated a case of Perforated Gastric Ulcer treated by evisceration and irrigation. The patient was a woman, aged 26 years, who had had indigestion for three weeks followed by symptoms of perforation. The abdomen was opened five and a half hours after the onset of the symptoms and the perforation was closed by sutures. As the stomach contents had escaped freely, soiling all parts of the peritoneum, the abdominal incision was prolonged, the small intestines were turned out, and the abdominal cavity was thoroughly irrigated. The irrigation was commenced in Douglas's pouch, so that the solution might flow in the opposite direction to the extravasated stomach contents, thus minimising the risk of spreading the infection. The operation caused very little shock and the patient made a good recovery. In Mr. Roughton's opinion irrigation could hardly be performed satisfactorily without turning out the small intestines; it was important to start in Douglas's pouch.—Mr. SPENCER remarked that difficulties existed in the tympanites which ensued in the intestines and the strain on the mesentery.

Mr. J. D. MALCOLM narrated a case of Complete Removal of a Multilocular Cyst of the Pancreas, with colo-colic anastomosis 16 days later, followed by recovery. The patient was a woman, aged 50 years. A malignant growth of the left kidney was diagnosed but at the operation a multilocular cyst of the tail of the pancreas was discovered and removed. Healing caused no trouble but symptoms of a partial obstruction of the intestine developed and the abdomen was reopened on the sixteenth day after the operation. The difficulty existed at the splenic flexure and an anastomosis between the transverse and descending colons was effected, after which there were no further urgent symptoms. The tumour, which was to be preserved in the Museum of the Royal College of Surgeons of England, was exhibited. It was a multilocular cystoma with a small amount of solid structure between the cysts. The fluid was not examined. The solid growth, as described by Mr. S. G. Shattock, showed in parts an adenomatous and in parts a carcinomatous structure. Another case[1] in which a similar tumour was removed by Mr. Malcolm was referred to; also one published by Mr. Watkins Pitchford[2] and one recorded by Dr. Reginald H. Fitz.[3] The last named had collected eight cases, all those of "benign" multilocular cysts of pancreatic origin which he could find; some of these showed no new growth of any kind. A case published by Dr. F. H. Dunning[4] resembled the one now recorded by Mr. Malcolm in many details. The rarity of these tumours was noted, the two removed by Mr. Malcolm and that from the case recorded by Mr. Watkins Pitchford being the only specimens in the Museum of the Royal College of Surgeons of England. The question of their origin was discussed and Professor Ambrose Monprofit's[5] case, in which it was necessary to remove the tail of the pancreas and the spleen to complete the operation, was referred to. The tumour in this case was said to arise from the remains of the Wolffian body because of its structure. But on some grounds many of the foregoing cases could be attributed to the pancreas as the seat of their development. Mr. Malcolm's first case contained fluid which was strongly amylolytic and the structure of the second was very suggestive of that of the pancreas. The difficulty of diagnosis was discussed, most of the cases having been regarded as renal or ovarian tumours before operation. Complete removal was held to be the only rational treatment when it was possible, as drainage of a multilocular cystoma, especially if it should be malignant, was a futile procedure.—The PRESIDENT referred to a case in his experience which was mistaken for an ovarian tumour. The pancreas had to be cut through and a troublesome pancreatic fistula ensued. Tumours which could be lifted out of the abdomen like that narrated by Mr. Malcolm must be extremely rare.—Mr. MALCOLM, in reply, expressed the belief that the pancreas could be cut through as fearlessly as any tissue without very serious risk of fistula.

OPHTHALMOLOGICAL SOCIETY.

Congenital Malformed Cystic Eye.—Radium in the Treatment of Rodent Ulcer.—Implantation Tumour of the Iris containing Wood Fibres.—Exhibition of Cases and Specimens.

A MEETING of this society was held on May 3rd, Mr. J. PRIESTLEY SMITH, the President, being in the chair.

Mr. S. JOHNSON TAYLOR and Mr. E. TREACHER COLLINS contributed clinical and pathological accounts of a Cystic Swelling occupying the position of the Left Eye and apparently formed mainly by a forward bulging of the conjunctiva of the upper lid. It was present at birth and steadily increased in size. Mr. Taylor first saw the child when three weeks old and then tapped the cyst with a fine trocar and cannula. It refilled the following day. When next seen, about a year later, it had increased in all dimensions, standing out two and a half inches from the orbital rim and giving a most unsightly appearance. Some discharge and blood had also been coming away from its apex for two months. Mr. Taylor therefore operated under a general anæsthetic and succeeded in removing it in its entirety. Mr. Collins stated that the pathological examination of the specimen showed that the cyst was really due to an enormous distension of the whole globe. The outer fibrous tissue wall appeared to be sclerotic and in places much attenuated. The inner coat corresponded to the retina but nowhere did that portion of it which is normally developed from the inner layer of the secondary optic vesicle lie in contact with that developed from the outer layer. The anterior portion of the cyst was lined by the former—i.e., tissue composed of a delicate network of fibres with branching cells having nuclear bodies amongst them. The posterior part of the cyst was lined by the latter—i.e., a single row of epithelial cells deeply pigmented in places and in others unpigmented. The cavity of the cyst was composed of the space between these two layers (the cavity of the primary optic vesicle). The explanation of the formation of this cyst was apparently the imperfect involution of the primary optic vesicle to form the secondary optic vesicle. There had been some attempt at involution both anteriorly and below. Anteriorly the inner wall of the cyst was prolonged backwards in a fold at the bottom of which was a rudimentary lens. So at one stage there must have been some downgrowth of surface epiblast. Below, the cavity of the cyst was considerably encroached upon by a mass of atypically developed vitreous humour. The expansion of the cyst below must have been checked by this upgrowth of mesoblast, hence the chief distension was upwards into the upper lid. As the whole of that portion of the retina which normally forms its inner layers was at the anterior part of the cyst it is not surprising that no optic nerve developed. The lens presented a defect in the formation of its posterior capsule. Through the gap in it mesoblastic tissue had extended forwards, becoming mixed with the lens fibres. A nodule of hyaline cartilage was met with in the sclerotic at the posterior part of the specimen. The principal pathological features were illustrated by lantern slides.—Mr. W. H. H. JESSOP referred to the hardness of cataract in microphthalmic eyes which was probably due to this admixture of mesoblastic tissue with persistence of the hyaloid artery. He mentioned one case in which the entire contents of the globe had been removed in an attempt to withdraw the lens by forceps.

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[1] Transactions of the Medical Society of London, vol. xxi., p. 91.

[2] Transactions of the Pathological Society of London, vol. liv., p. 354.

[3] The American Journal of the Medical Sciences, New Series lii., p. 154.

[4] The American Journal of Obstetrics, 1905, p. 101.

[5] Gazette Medicale de Paris, March 12th, 1904.

Mr. J. MACKENZIE DAVIDSON gave a brief *résumé* of cases of Rodent Ulcer treated by exposure to Radium. In 1896 Becquerel discovered the effect of uranium on photographic plates protected from ordinary light rays. The investigations of Madame and Professor Curie culminated in the discovery of radium, a metal of the barium series obtained from the residue of pitch-blende, which emitted rays of three kinds: (*a*) those which might be stopped by a sheet of paper and which did not penetrate the glass tube but gave rise to scintillation; (*b*) those which corresponded with the x rays within the tube, which penetrate glass but not lead or platinum; and (*c*) those equivalent to the extreme of penetration of x rays, capable of passing through several inches of glass and even metal. These last were the specially effective rays. The first application of radium for rodent ulcer was in the vicinity of the tear-sac where x rays were inapplicable or had failed. The ulcer, about an inch in diameter, was completely cured in five applications. Radium shaken down to the bottom of a thin glass tube was applied to the diseased area for about half an hour at a time. No sensation was felt, but in about eight days there was some reaction with formation of a crust and pus. Fresh applications were made at intervals of a month or six weeks. The cases cited were 14 in number, half in men and half in women. All were completely cured, the number of exposures varying from one to 12, repeated at intervals of from four to six weeks. The speaker said the tubes of radium underwent no change themselves and having been once procured were permanent—a great advantage in comparison with x ray tubes. He spoke of the excellent results obtained but insisted on the necessity of complete cure, as if patients desisted before this was effected they were prone to relapse.—Mr. M. S. MAYOU stated that when ulcers were so deep as to affect the bone they were intractable to this mode of treatment.—Mr. T. J. P. HARTIGAN said the first case of the kind treated and published in this country was one at the Hospital for Diseases of the Skin, Blackfriars, in 1903. Nearly 6000 such applications had been made there since. He questioned whether there were not some variations in quality or radio-activity in different specimens of radium and recommended the employment of celluloid rather than glass for the tube. 23 cases of rodent ulcer had been so treated without a failure and the method had been extended to cases of Paget's disease and psorospermosis and also to superficial carcinoma with excellent results. There were six cases now showing no sign of the disease.—Mr. DAVIDSON, in reply, said cases did not improve when the disease extended to the bone, otherwise the radium treatment might be regarded as a specific for rodent ulcer. He preferred glass for the retainer as it cut off the burning rays and he had a piece of platinum wire fused into the sealed tube to act as a conductor to prevent electric explosion. Moisture weakened the radio-activity and radium was still very costly, about £10 per milligramme.

Mr. R. PICKARD described with the aid of lantern slides an Implantation Tumour of the Iris which contained wood fibres. The patient was a girl, aged 14 years, and the tumour had been noticed for nine years. It was three millimetres in diameter and was situated below the pupil. On removal the basis was found to be granulation tissue containing three wood fibres of coniferous origin (displaying bordered pits). The tumour consisted of epithelial cells and contained several cysts, some of which were formed by degeneration of cells and others by the occurrence of fissures. There was no direct history of injury to the eye or trace on the cornea. Probably a fine splinter perforated the cornea ten years before when she fell and struck her nose against a table.

The following cases and card specimens were shown:—

Mr. SYDNEY STEPHENSON: A case of High Myopic Astigmatism, showing Fissures in Descemet's Membrane.

Mr. G. WINFIELD ROLL: Coloboma of the Choroid.

Mr. A. L. WHITEHEAD: An unusual case of Tumour of the Iris.

Dr. F. W. EDRIDGE-GREEN: (1) Apparatus for Estimating Hue Perception; and (2) a Spectroscope for Monochromatic Patches.

Dr. RAYNER BATTEN: Recurrent Orbital Tumour after Œdema of the Orbit.

Mr. W. I. HANCOCK: Tubercle of the Conjunctiva.

Mr. G. H. GOLDSMITH: Concussion Hole at the Macula.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Presidential Address.

THE jubilee meeting of this society was held on May 11th, Sir SHIRLEY F. MURPHY, the President, being in the chair.

After alluding to the interest attaching to the present meeting as falling within 48 hours of the fiftieth anniversary of the foundation of the society, the PRESIDENT referred to the circumstances that led to the institution of medical officers of health. It had been recognised that the great mass of the poor lived under conditions incompatible with a healthy existence, that these bred disease, and disease and misery fostered a spirit of discontent that was becoming dangerous to society and the State. The inquiries conducted by Edwin Chadwick, Southwood Smith, Neil Arnott, and James Phillips Kay led to the first public health legislation in 1848 when the General Board of Health was constituted. The Board did good work in the collection of evidence and statistics until in 1854 the duties were taken over by a department of the Privy Council since transferred to the Local Government Board. Under this Act the larger towns were empowered to appoint medical officers of health, which Liverpool had done under a local Act of the previous year. The first appointment under the Act was that of John Simon to the City of London. In 1855 the Metropolis Local Management Act made these appointments incumbent on all the vestries and local boards and next year 47 medical officers were appointed, among whom were Letheby (in succession to Simon), Burdon Sanderson, Odling. Pavy, Bristowe, Ballard, and a little later G. Buchanan, destined to succeed Simon at Whitehall. After a preliminary meeting at the house of Dr. Pavy the Society of Metropolitan Medical Officers of Health was formally inaugurated on May 13th, 1856, at the house of the Medical Society, under the presidency of Mr. Simon. Committees were appointed for various lines of investigation, as trades nuisances, adulteration of food, etiology of preventable diseases, statistics, meteorology and so on. Medical certification of the causes of death was not then compulsory but they exerted themselves to obtain information as to the causes, immediate and remote, the sanitary conditions of the houses, and the prevalence of sickness, but for various reasons the returns from public institutions were not continued for more than a year. Though it had not yet been found possible to establish a regular system of registration of all cases of sickness it was already felt that the issue of weekly returns of all cases of notifiable infectious disease should enable the medical officer of health of to-day to take steps for the repression of an outbreak that would be already beyond control when one or more deaths had occurred. The labours of these committees, with the advantages derived from the greater accuracy and completeness of the returns of the Registrar-General, gave an enormous impetus to inquiry and research, and in these and the few following years Dr. Snow's investigation of the means by which cholera was spread, with special reference to the behaviour of the epidemic of 1848 and 1854 in the districts of the Chelsea and Southwark Water Companies, the general recognition of the difference between typhus and typhoid fevers, the spread of the latter by means of milk, the aerial diffusion of small-pox, first suggested by Dr. Hillier in 1862, the differential diagnosis of scarlet fever and diphtheria, and the duty of State intervention in the conduct of trades and manufactures injurious to health with which the name of Dr. Ballard would always be associated effected little less than a revolution in the sanitary administration of the country. The appointment of medical officers of health in the provinces and rural districts, though optional until the passing of the Public Health Act of 1875, was becoming more general every year, affording many opportunities for investigating the means by which communicable diseases were spread. Another report of milk-borne disease, this time scarlet fever, was received in 1867 from Mr. Taylor of Penrith and was followed by so many from all quarters that its possibility and indeed its frequency were amply demonstrated. In 1877 and 1878 the like causation of outbreaks of diphtheria was proved by Mr. E. L. Jacob, a Fellow of the society, and Mr. W. H. Power, who, with the help of Dr. Klein, followed up the inquiry experimentally, proving with complete success that not only did the milk act as a simple vehicle of the infection from man to man, but that the cows themselves might suffer from modified forms of human diseases, imparting them to man with their normal characters. In 1886 Mr. G. Turner, medical officer of health of East Herts combined district, recognised diphtheria in a fatal disease of cats occurring simultaneously with diphtheria in man. Thus the medical officer of health could no longer ignore the diseases of the lower animals or the study of parasitic organisms. Within the last few years the labours of Manson, Bruce, Ross, and Nuttall in this country, with others on the Continent and in America, had shown the important part played by protozoa in the etiology of disease, parasites requiring an intermediary host in which to pass one phase of their life cycle. Though malaria had been practically stamped out and yellow fever and trypanosomiasis failed when imported to be communicated to other persons because the intermediary hosts could not live in our climate, the liability of rats to contract the plague and the connexion of the cimex with relapsing fever which was epidemic in these islands in 1868–69 could not be ignored. In 1841 the Registrar-General had applied the name "zymotic" to certain diseases but it was not until 1857 that Pasteur began his researches into the connexion of fungi with disease, identifying the cause of pebrine as Pollender and Davaine did that of anthrax. During the following years Villemin proved the infectivity of tubercle and the science of bacteriology grew up in the hands of Koch, Klebs, Löffler, Eberth, Gaffky, and others, who between 1876 and 1884 identified and cultivated the bacilli of tubercle, cholera, typhoid fever, diphtheria, &c., to which Kitasato in 1894 added plague, as others had those of pneumonia, influenza, meningitis, &c. Between 1886 and 1890 Salmon, Roux, Ehrlich, Behring, and Kitasato, working with sterilised cultures of hog cholera, tetanus, anthrax, and diphtheria, and more recently Haffkine, Yersin, Roux, Pfeiffer, Koch, and Wright, with those of typhoid fever, cholera, and plague, succeeded in rendering animals immune to these diseases, but the greatest triumph had been the antitoxin obtained by Behring through the inoculation of horses with virulent cultures of diphtheria, now used for preventive and curative purposes on man. Many forms of immunisation, permanent or temporary, were at present under examination—active or direct, by inoculation with living bacteria, by bacteria killed by heat, or attenuated by lesser degrees of heat, desiccation, or passage through another animal, or by bacterial extracts; and passive or indirect, when the toxins were neutralised by the inoculation of substances known as antitoxins produced in an animal that had been previously immunised in the direct method; and lastly, antibacterial serums which were still on their trial. Another line of research was that followed by Sternberg and Metchnikoff between 1881 and 1884 on phagocytosis or the ability of the leucocytes to devour and to destroy the bacteria as an explanation of normal resistance to infection, and by comparing the phenomenon as exhibited in the serums of a healthy person and of one suffering from tuberculosis the phagocytic index furnishing a measure of the probability of ultimate recovery of the latter. Ehrlich's side-chain theory and Wright's of the existence of opsonins increasing the susceptibility of the bacteria to phagocytosis were among the most recent contributions to this complex question. Ehrlich, von Behring, Metchnikoff, and many others were working at the problems of the transmission of immunity by the mother to her offspring in utero or through her milk, and the employment of the Gruber-Widal test for this purpose pointed the way to further discovery. Turning from scientific investigations in the laboratory to practical administrative work the President referred to the progress made in the protection of water-supplies from sewage pollution and in the prevention of the spread of typhoid fever through the specific contamination of shell-fish. Discussing the failure of the provision of isolation hospitals, on which enormous sums had been spent, and the universal enforcement of notification to "stamp out" infectious diseases, he referred to the influence of mild unrecognised cases and of "carriers," or persons who, though escaping themselves, conveyed the infection to others; to the observations of Whitelegge, Longstaff, and Newsholme on recurring waves of greater or less virulence and fatality which might or might not coincide with the recurring waves of prevalence, and to the apparent failure of preventive measures as at present practised to influence the prevalence of some diseases as showing that there must be causes at work still unknown to us which would if discovered help to explain the variations in severity and prevalence of diseases, as whooping-cough and measles, against which no measures were or could be taken. After discussing the various questions connected with the propagation of tuberculosis in the adult and the infant by inhalation and by ingestion, the relations of human and bovine disease and tuberculous milk, the inhalation of the dried spores and the prohibition of spitting, and Flügge's recent observations on the greater activity of "cough spray," which if ignored rendered all other precautions unavailing, he concluded by asking what practical and palpable results had been achieved during the last 30 or 40 years by the efforts of sanitary reformers. The mortality from tuberculosis had in 50 years been reduced by half, but a considerable reduction had already taken place before its infective character had been recognised or any measures had been undertaken to prevent its spread. There was no evidence of lessened activity of the bacilli. Had the resisting power of the population been increased by better food, clothing, and housing? There was no question that the standard of living of the masses had been greatly raised and the opsonic index showed the effect of better food, &c., on individuals. There might be some truth—how much one could not say—in Newsholme's theory of the benefit to the community from the segregation of persons who in their homes had been foci of infection. After paying a tribute to the good work of Dr. B. A. Whitelegge and his staff in the control of industrial diseases, the President turned to the evidence afforded by the returns of the Registrar-General as to the reduction of the death-rate between 1851–60 and 1891–1900. This had fallen no less than 18 per cent.—16 per cent. for males and 20 per cent. for females. Between the ages of five and 20 years it had fallen no less than 50 per cent. but between those of 45 and 75 years it had actually increased. Dr. W. Ogle ascribed this to the reduction of the earlier age periods having led to the survival of a generation of feebler individuals who would formerly have died young, but a careful study of the variations at each successive age period indicated that this cause was ceasing to act and the older individuals were becoming healthier than they were 20 years ago. Taking the popular division of diseases into preventable and non-preventable, it appeared that the reduction of the death-rate from the former was 42 per cent. but that of the latter only 4 per cent. The decline of the former was evident at all ages, that of the latter at the earlier only, for after 35 years they were increasing. A little while ago the increase began at 25 years and if this improvement continued it might be hoped that in another 50 years the reduction at advanced ages would be nearly as great as at the earlier. There was no apparent decrease in the infant mortality, but in St. Pancras Dr. J. F. J. Sykes had shown that a general improvement was masked by an increase confined to the first week. Did this point to ante-natal conditions? The decrease in the birth-rate, a phenomenon of far-reaching meaning, demanded careful consideration and it was remarkable that the death-rate in the most insanitary areas in East and Central London declined as alien immigrants superseded the original population. As a rule, however, the infant mortality varied inversely as the number of rooms in each tenement. Death-rates generally followed overcrowding with all its attendant evils, except the mortality from cancer, which though almost confined to past middle life was wholly independent of social position or sanitary conditions and they might venture to hope that by improved standards of living the physical condition of the nation might be enormously improved, though perfection was unattainable.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Patients.—An Infants' Milk Depôt.—Inguinal Hernia in the Female.

A MEETING of this society was held on May 2nd, Professor WILLIAM S. GREENFIELD, Vice-President, being in the chair.

Professor P. EHRLICH of Frankfort was elected an honorary member of the society.

Mr. H. ALEXIS THOMSON showed a man, aged 60 years, who suffered from Chronic Jaundice and Distended Gall-bladder, with relief of symptoms after cholecystenterostomy. He said that Courvoisier's law stated that 90 per cent. of cases of persistent jaundice were not due to impacted gall-stones but to malignant disease. On opening the patient's abdomen no evidence of malignant disease was found but the gall-bladder held about a pint of fluid. Lest drainage would be required permanently the gall-bladder was joined to, and opened into, the small intestine. The man went steadily downhill for some weeks. On going home, however, he treated himself by the "violet cure" for three or four months and was now quite well. The case was probably one of an inflamed condition of the head of the pancreas so compressing the head of the common bile duct as to cause obliteration of its lumen.

Mr. J. M. COTTERILL showed a lad suffering from Aneurysmal Varix of the Right Orbit. Six months ago he fell out of a vehicle, striking his left occipital region, and three days later his right eye began to project. The sight was reduced to one-tenth of the normal. The angioma concerned the ophthalmic artery and its branches. Treatment by electrolysis was out of the question. If operation were to be performed Mr. Cotterill would prefer ligature of the common carotid.

Dr. W. ROBERTSON, medical officer of health of Leith, read a communication entitled "The Practical Side of an Infants' Milk Depôt." He said that, in spite of his knowledge of the weaknesses and shortcomings of such institutions, he still believed in the value of the municipal milk depôt. It had been, and still was, said that the milk depôt was merely a clumsy cloak for an impure milk-supply. A pure ideal milk-supply ought to come from cows fed on rich pasture land; cows, milkers, dishes, and pitchers must be scrupulously clean and chilling of the milk should be carried out. In Edinburgh and Leith the dairymen were in most cases unwilling to move out of their beaten track or to put in operation what they were pleased to term "fads of health officials." They preferred to add formalin or boric acid rather than to chill the milk. The utmost vigilance was required to prevent adulteration by the addition of water, skimmed milk, and preservatives. In Leith a few selected cases were taken to court, as experience had shown that only glaring instances of adulteration were likely to result in a conviction. In Glasgow the least aberration from the milk standard was met by an adequate fine. Obviously, in the east of Scotland adulteration was encouraged and it had developed into a fine art. Last year an outbreak of diphtheria in Leith was traced to a dairy in which several cows were suffering from a teat eruption. The dairyman was asked to isolate the affected cows and to destroy their milk. This he promised to do but there was no diminution in the number of cases notified at the end of the week and in each case milk was obtained from the suspected dairy. It was found that the milk from the affected cows was still being sold, as the "doctor had been talking nonsense." Relays of inspectors were stationed at the dairy premises for a fortnight and they saw that every drop of suspected milk was poured into a drain and coincidently the epidemic was checked. Dr. Robertson was in entire agreement with the idea that cowsheds should not be found in towns. The dairyman knew perfectly well how important it was to groom cows and to have clean hands to milk the animals; he knew that cooled milk would keep sweet in the warmest weather and up-to-date dairymen sold milk in clean bottles. As soon as the public was taught to insist upon chilled milk delivered in bottles the dairymen would meet the demand. It was a mistake to think that an elaborately built cowshed was necessary to insure a pure milk-supply: with a wooden shed a pure milk could be, and was in practice, furnished. The motive power was the intelligence of the dairyman himself, but beyond must be the momentum of public clamour. The medical officer of health could only administer laws and make suggestions. It rested with the medical practitioner to teach his patients that what was best for them and their offspring was a milk-supply collected under what might be termed aseptic precautions. It was to counteract gross pollution on the one hand and ignorant methods of feeding on the other that the present-day milk depôt was established. The long septic feeding tube was done away with, methodical feeding was taught, and in general mothers were afforded an object lesson in correct principles of feeding. Gross neglect in feeding was the prime factor in causing so many fatal cases of diarrhœa. As regards the milk, speaking generally, it was necessary to be content with an impurity of at least 12,000 bacteria per cubic centimetre. That was looked upon as a standard supply of clean milk. The milk for the Leith depôt was obtained from a dairy farm near Haddington where the cows were for the greater part of the year fed upon natural pasture and where every precaution was taken to insure a clean supply. At the depôt water, cream, and sugar were added, the proportions varying with the ages of the children to be fed. As a rule the fat varied between 3 and 3·4 per cent. The bottles, after being filled, were placed in the steriliser and kept at a temperature of 180° F. for 20 minutes and then placed in a tank of cold water. When the depôt was first opened an attempt was made to sterilise the milk. It was subjected to a temperature of 212° for 30 minutes (a preliminary half-hour being required to reach this degree of heat). The procedure was unsatisfactory because the prolonged heating frequently caramelised the milk; besides the milk was not sterile and two cases of scurvy occurred amongst those using this milk. These cases seriously affected the depôt in the eyes of the public for some time. Inquiry showed that the milk was lamentably deficient in fat. Since the mere pasteurisation of the milk and the addition of fat had been practised no cases of scurvy had arisen. Of the bottles of milk prepared at the Leith depôt only 15 per cent. were found to contain sterile milk. The bacteriology of milk accounted for the difficulty in inducing sterility. Roughly, three groups of organisms were present in milk—namely, (1) those belonging to the bacterium coli, proteus, and lactic acid group which were easily killed by short exposures to heat; (2) butyric acid organisms, anaerobic and spore-bearing, which caused rapid decomposition of milk with coagulation and gas formation and required a temperature of 212° maintained for an hour or one and a half hours in order to kill the spores; and (3) the bacillus subtilis or peptonising group which was the prime cause of summer diarrhœa. The spores of group 3 required exposure for two hours at 212° before they were killed. Pasteurisation did not alter the taste of the milk and inflicted as little damage on it as possible. The children fed on milk supplied by municipal depôts were regularly visited by lady health visitors and in Glasgow a lady practitioner had been appointed to give her undivided attention to this work. Weighing of the infant was of great value. Pasteurised milk did not agree with every infant. For young infants each meal was so small that the system was decidedly unpopular. The popular quantities were those found in bottles prepared for babies of two months of age. Amongst the infants fed on depôt milk during 1904 there were no deaths from diarrhœa, while among other hand-fed infants there were 36 deaths. In 1905 three infants fed on depôt milk died from diarrhœa, while of infants not fed on the milk 49 died from diarrhœa.

—Dr. W. LESLIE MACKENZIE said that the state of milk separators which were being cleaned out gave a good idea of the dirty condition of milk, for they contained a deposit from a quarter to half an inch thick, consisting of mud, mucus, straw, &c. He drew att [illegible] the great benefit shown in Paris, Dundee, and els [illegible] ing free meals to suckling mothers. In Paris, of 401 mothers so fed less than 1 per cent. of the children suckled by them died, whilst the mortality in Edinburgh was from 18 to 20 per cent. —Dr. MALCOLM CAMPBELL said that he had fed 37 children for four months with milk obtained from the Leith depôt and among them there was only one death. The infants were weighed once a week and only five showed no increase during one week. After a time there was great rivalry amongst the mothers as to which child put on most weight.—Dr. J. STRACHAN (Dollar) said that his practice was to feed the infants on whole cow's milk without any change and his mortality was exceedingly small. He had no greater trouble with babies so fed than with breast-fed infants. He encouraged the use of one cow's milk, as it lessened the risk of mixing and so varying the composition. He had frequently met with babies starved on mixtures of milk and water who immediately began to thrive on pure cow's milk. He saw no reason for adding water to milk.

Dr. E. W. SCOTT CARMICHAEL read a paper on Inguinal Hernia in the Female. He said that this variety was of very common occurrence in females. Of 184 radical operations performed by him in children in this variety of hernia 23 were females and the relative frequency of this hernia did not seem to vary with age. There was good reason for concluding that this form of hernia was congenital in the female as well as in the male. The right side was most frequently the site of the affection. The contents of the sac in 28 cases were as follows: Fallopian tube and ovary in 17, Fallopian tube alone in five; small intestine in two; omentum in two; cæcum, ovary, and Fallopian tube in one; and vermiform appendix, ovary, and Fallopian tube in one. In two cases the sac was tuberculous. It was suggestive that the persistence of the canal of Nuck should be associated so frequently (over 30 per cent.) with malposition of the ovary and Fallopian tubes. The frequency of the presence of the ovary and Fallopian tube in the sac was most probably connected with the development of the inguinal ligament, while in the adult the presence of the ovary in the sac was due to mechanical effect. The ovary and tube did not lie free in the sac as a loop of intestine did, but were intimately associated with its wall, one broad ligament springing directly from the posterior aspect of the sac. A large percentage of inguinal herniæ in the female were bilateral and this seemed to be more marked the younger the subject The younger the patient the more frequently were the ovary and tube found in the sac. In order to replace the ovary and tube it was necessary to divide freely the attachment to the sac. Tuberculous disease of the sac occurred in about 3 per cent of herniæ in young subjects. Dr. Carmichael drew the following conclusions from his experience: (1) inguinal hernia in the female child occurred in about 10 per cent. of all cases; (2) it was associated in 30 per cent. of cases with a descent of the ovary and Fallopian tube; (3) the presence of these organs was often associated with malformation and defects of the genital system; and (4) the condition most likely to be confused with a hernia containing the ovary was the presence of a tuberculous nodule in the sac.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. J. W Ballantyne, the President, being in the chair.—Professor Robert Jardine (Glasgow) read notes of two cases of Eclampsia One of the patients died from suppression of urine caused by complete infarction of both kidneys; the other recovered after having had upwards of 200 fits. The first patient was in the seventh month of her seventh pregnancy and was admitted to the Glasgow Maternity Hospital after having had eight fits. A few days before swelling of the legs and face had been noticed and the patient had complained of severe headache On admission she was unconscious and very restless; the urine became almost solid on boiling and contained granular tube casts Blood to the amount of 12 ounces was drawn from the arm; two pints of saline solution, consisting of one drachm of sodium chloride and one drachm of sodium acetate in a pint of water, were transfused, the stomach was washed out, two ounces of salts were administered, and a hot pack was applied. She had three fits soon after admission and a drachm of bromide and half a drachm of chloral were given by the stomach tube. The hot pack was repeated and the skin acted well. The bowels acted four times with salts. Next day she passed urine freely, which contained 10 per 1000 albumin (Esbach) and 1½ per cent of urea. On the following day she gave birth to a seven months fœtus. From midday there had been almost complete anuria; such urine as had been passed in the morning gave only 2 per 1000 albumin (Esbach). The day after the labour she had one fit. Two pints of the same saline solution were infused under the right breast and into the abdominal wall. Suppression of urine was evident and this was treated by cupping, pilocarpine injections, hot packs, &c. These caused profuse perspiration. Finally, after consultation, as the suppression was due to congestion, the right kidney was operated on, the capsule was incised and stripped off one side and slightly off the other, and an incision one-third of an inch deep was made into the kidney substance. The patient stood the operation well but her pulse failed and she died ten hours after the operation, about five and a half days after the commencement of the suppression. At the necropsy both kidneys were found to be enlarged and congested. The right kidney, which had been operated on, had a layer of blood clot between the capsule and the kidney substance varying in thickness up to a quarter of an inch. The cortex was found to be intensely congested with blood with changes of the nature of a widespread infarction. An almost identical case of complete suppression of urine was reported by Dr. W. S. A. Griffiths and Dr. W. P. Herringham in March in the *Journal of Pathology and Bacteriology*. This patient had suffered from chronic renal disease for years; there were no fits Only ten ounces of urine were passed in nine days. Another case is reported in the same journal (1898, Vol. V., p. 197), where the suppression had lasted seven days without any uræmic symptoms. In the second of the two cases now described by Professor Jardine the patient was in the ninth month of her fourth pregnancy. She had had eight fits before admission to the Maternity Hospital. She had slight œdema of the legs and the urine showed a cloud of albumin, with some epithelial cells but no casts. Under chloroform, two pints of the same saline solution were infused under the right breast; the stomach was also washed out. She remained well for two and a half days, when a child was born naturally. Fits began two days after the delivery and continued until over 200 in all had occurred. She was treated by bleeding and transfusion twice; by injection of morphine given while the kidneys were acting freely; and by chloral and bromide. Lumbar puncture was also performed and half an ounce of cerebro-spinal fluid was withdrawn; it came away in drops but during a fit it ran quite freely; the fluid was quite clear and was found by culture and under the microscope to be quite sterile. Two hours later lumbar puncture was again performed and one-fifth of a grain of cocaine was injected. This seemed to quiet the patient but the fits did not diminish in frequency. Strychnine and digitalin were given to keep up the strength. The kidneys were extremely active all the time, a circumstance which favoured elimination of the poison.—Dr. A. H. Freeland Barbour read notes of a case of Broad Ligament Cyst with twisted pedicle and extravasation of blood into the cellular tissue along the left ovarian vein. He said that cases of hæmorrhage on the distal side of a twisted pedicle into the tumour itself were of common occurrence but cases of hæmorrhage on the proximal side were rare. The patient, who was unmarried and 40 years of age, was found to have a solid tumour pushing the uterus upwards and another in the lower region of the abdomen, apparently cystic. On opening the abdomen a cyst growing between the layers of the broad ligament was found with a half twist in its pedicle. On its removal it was noted that the broad ligament contained an extravasation of blood. A large fibroid tumour was found in the pouch of Douglas and was easily removed as its pedicle was only of the thickness of a pencil. Two litres of salt solution were left in the abdomen. The patient died from acute septic bronchitis supervening on bronchitis with emphysema. The necropsy showed that there was no pelvic peritonitis.—Dr. Barbour also read a note of a case of Abdominal Hysterectomy for Inversion of the Uterus, with fatty degeneration of the inverted portion.—Dr. E. W. Scott Carmichael read a paper on Hernia of the Uterine Adnexa

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on May 8th, Mr. Justice Walton, the President, being in the chair.—Dr. T. Claye Shaw read a paper on Insanity and Murder. He said that most murders were committed in moments of strong mental emotion; from the medical standpoint the prisoner's sanity or insanity was the most important element in the incident. In 1904 45 per cent. of the patients at the Criminal Lunatic Asylum

(Broadmoor) had been charged with murder; in that year 40 per cent. of those tried for murder were found to be insane at some period after arrest; in 1903 the percentage was 25·6. The present method of procedure in such murder cases was illogical, undignified, and incongruous. It might be assumed in practice that insanity and irresponsibility coexisted; the responsibility of patients which apparently was recognised in asylums was both specious and at times expensive. The rule in Jersey was to notify all lunatics to the authorities; it might be considered by us. Where the sanity of remanded prisoners was questioned by the medical officer he reported his suspicion to the Treasury which at once sends down a mental specialist for a consultation; at the subsequent trial a jury was sworn with the sole object of trying the issue of insanity, which being proved postponed the trial, for the prisoner was returned "insane on arraignment." Some prisoners resented the plea of insanity from fear either of being sent to Broadmoor or of losing the chance of a speedy acquittal; thus also might facts concerning collusion and agency be stifled. Dr. Shaw proposed that before the trial proper commenced sworn evidence should be taken as to the prisoner's sanity. The prison surgeon could testify in obvious cases; otherwise two official mental experts nominated by the Treasury would appear. Such evidence should be final but at the judge's discretion an inquiry might issue as to who did the deed and how it was done. In this way, it was affirmed, much unseemly medical dispute would be obviated at a later stage of the trial.—Dr. Henry Maudsley did not agree that the present procedure was at fault nor was it unfavourable to the prisoner. All medical reports were placed unreservedly in the hands of the defence. The proposed procedure would deprive the accused man of the right to adduce evidence in support of his sanity; this hardship, however, occasionally happened now even with minor criminal allegations and was in great contrast with the formalities necessary prior to the seclusion of a lunatic. No practical injustice was done; the jury leaned towards the prisoner's favour and might even decline to credit the medical evidence of sanity. 40 years ago evidence of insanity was likely to be received with suspicion and distrust both by judge and jury.—Dr. T. S. Clouston, from a long experience in Scotch criminal procedure, agreed in substance with the proposals. The experts appointed by the Treasury should have full access not only to the prisoner but to all the available circumstances of the crime and the persons connected with him and it. The judge should be allowed to call a medical assessor to his aid during the trial. It was anomalous that the Home Secretary acted upon unsworn testimony as to the patient's mental condition after a formal trial and conviction. The proposed Court of Criminal Appeal might review convictions where mental disorder had probably caused the prisoner's offensive conduct.—Dr. C. A. Mercier did not regard insanity and irresponsibility as convertible terms. Each was a matter of degree; many "irresponsible" persons deserved punishment, notably those whose criminal deeds were not influenced by their madness. The onus of deciding on the sanity of the accused would be shifted from the judge and jury to the two experts who themselves might disagree. The prisoner if found insane would be barred a verdict of acquittal. In this country trial by experts would never be allowed to replace trial by jury. There was no grievance to be remedied; if the judge thought that further evidence of insanity could be adduced he could inform the prison authorities of his opinion privately.—Dr. James Scott deemed the present procedure, which was not perfect, to be preferable to the proposed change. In some men the crime itself was the only symptom of insanity available. Mental experts examining the prisoner after the trial were not fettered by the rules which prohibited the extraction of self-incriminating testimony. Some patients at Broadmoor objected that, as they had not been found guilty of a misdeed, they should be discharged at once. It was not logical to restrict the proposed innovation to murderers.—Dr John Baker said that prisoners were discharged from Broadmoor at the discretion of the Home Office after petition by the prisoner or his friends and a report by the medical officer; there were no rules as to the length of detention, not even with puerperal offenders. He had noted that many who entered Broadmoor, when asked concerning their alleged criminal act pleaded amnesia; this state was often merely assumed but it was also true that it required a tremendous mental effort to reconstruct the details of a terrible act. Convicts were kept separated from the other patients; it was a very awkward position to be in when challenged by these latter as to why they should not be liberated, since nothing criminal had been proved against them.—Dr. Robert Jones favoured the retention of the present procedure; insanity was often a matter of opinion and could not be established even by post-mortem methods; the brief sittings usually possible in the case of prisoners made a definite conclusion very uncertain in many criminal inquiries.—Dr. T. B. Hyslop held that while the medical faculty had to determine questions of sanity, responsibility was beyond their scope. Trained lawyers excelled medical men in sifting details.—Dr. F. S. Toogood urged that many cases would have to be investigated immediately after the commission of the crime as where delirium tremens was a factor. At the Lewisham Infirmary he received many persons discharged as "cured" from the London County Asylums.—The learned President did not approve of the suggested interference with the Royal Prerogative as administered by the Home Secretary who was able to secure and to review all the evidence available, including such facts as had been excluded during the trial by legal technicalities; further he believed that juries, though at times acting illogically, seldom went very wrong. At present a prisoner might be tried both as to his fitness to plead and afterwards as to his guilt. If it was found that then and there he did not appreciate what was going on in court, his trial was postponed. Dr. Shaw had proposed that he should be dealt with after two "certificates on oath" of experts who might possibly fail to agree; this would not be trial, for no evidence would be laid before persons competent to decide the facts in issue. He feared that juries were sometimes biased by hearing the horrid details of a crime, so that they determined that someone must be punished, usually the prisoner before them. On the other hand, it was not always merciful to insanity, with the resulting prolonged seclusion at Broadmoor instead of alternatively an acquittal or a short sharp sentence; with some habitual inebriates such a detention after a crime was the best possible treatment of the disease.—Dr. R. J. Collie, Dr. S. R. Wells, and Mr. F. Danford Thomas also spoke.—In his reply Dr. Shaw said that it surprised him to hear that his suggested procedure would be unpopular with the public.

DERMATOLOGICAL SOCIETY OF LONDON.—The annual general meeting of this society was held on May 9th, Dr. J. J. Pringle being in the chair. The following officers were elected for the ensuing session:—*Council*: Dr. H. G. Adamson, Mr. Willmott H. Evans, Dr. T. Colcott Fox, Dr. James Galloway, Mr. Malcolm Morris, Dr. J. A. Ormerod, Dr. J. J. Pringle, Dr. Edward Stainer, Dr. J. Herbert Stowers, and Dr. Norman Walker. Honorary treasurer: Dr. H. Radcliffe Crocker. *Honorary secretaries*: Dr. Arthur Whitfield and Dr. E. G. Graham Little.—An ordinary meeting was afterwards held, when the following cases were exhibited.—Mr. T. E. A. Pearman, introduced by Dr. Galloway, showed a case of Unilateral Partial Œdema in a child, aged two and a half years. There was an œdematous condition of the left thigh and leg which caused this limb to be double the size of that on the right side. There were also slight œdema of the left cheek and a fulness of the bridge of the nose, which was also probably œdematous.—Dr. F. Parkes Weber said that he was familiar with this condition and with the literature on the subject. It was a congenital lymphatic œdema, sometimes occurring in segments of the body, as in this case, and sometimes symmetrically. The general prognosis was not bad. Meige had written on it in the Salpêtrière magazine and references were given in the *Presse Médicale* of the past year.—Dr. J. M. H. Macleod showed a boy, aged eight years, the subject of Adenoma Sebaceum of a very characteristic type. The face was covered with small very red papules with numerous telangiectases scattered over the surface. There were further characteristic nævoid fibromata upon the back and the forehead. The boy had had fits in early life and was now quite idiotic. There was a history of fits in the mother also but this was the only child out of four who had adenoma sebaceum.—Dr S. E. Dore also showed a case of Adenoma Sebaceum in a man, aged 26 years, in whom the disease had not shown itself apparently until the age of 21 years. The eruption was much less marked than in the previous case and consisted only of pinpoint-sized pale papules for the most part, with a few very red larger papules upon the alæ of the nostrils. The patient's mental condition seemed normal. In addition to the papules above described he had mall nævoid fibromata upon the back and loins. The case vas pronounced to be a somewhat abnormal one of adenoma ebaceum.—Dr. Whitfield showed a case of Linear Lichen Planus upon the right thigh and buttock of a girl, ged seven and half years, the disease having commenced four months previously. There were no lesions upon any other part of the body.—Dr. Pringle showed a case for diagnosis of a man who was covered with a superficial, very red, in places yellow, Eruption, slightly scaly, and not at all infiltrated. It had persisted for four years but there had not been any severe itching. The general health had not suffered. The blood had been examined and showed a slight degree of leucocytosis but no leucocythæmia.—Dr. Radcliffe Crocker considered the case to be a typical example of the disease which he had named xanthoerythrodermia perstans.—Mr. Evans showed a case of Actinomycosis of two and a half years' duration in a woman, aged about 40 years. She had a large amount of scarring in the neck and side of the face The disease had apparently started with the tonsil. Much benefit had resulted from the administration thrice daily of 15-grain doses of potassium iodide. The characteristic fungus had been found in the discharge.—Dr. Adamson showed a case for diagnosis of a boy, aged seven years, with numerous pitted scars arranged in close juxtaposition upon the lower part of the abdomen over an area of about six inches. Within this area there were some hard papules as well which, in combination with the scars, suggested the diagnosis of a tuberculide. The condition had persisted for three years.—Dr. J. H. Sequiera showed a case for diagnosis of a young woman, aged 19 years, who had a Granulomatous Infiltration of the Nose and Cheek, Leucoplakia, and some large deeply Pigmented Scars upon the Right Thigh, the last lesions having existed from the age of two years. There were *corneal nebulæ*, but these were pronounced by an ophthalmic surgeon to be due to ulceration, not to interstitial keratitis, and there was no choroiditis. There were no marks of syphilis in the teeth. The case was shown as one in which it was difficult to discriminate between tuberculosis and syphilis and it was even suggested that both diseases might be present at the same time The general opinion was that the case was an unusual one of congenital syphilis showing tertiary lesions.—Dr. Little showed a case of Erythema Keratodes in a middle-aged man who had suffered from this affection for at least three years. The sole of the right foot was occupied for its posterior half by a very much raised hard keratotic mass, with a wide pink areola surrounding it. The left foot remained unaffected. The condition had been painful but was relieved by treatment.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 10th, Mr. F. Bowreman Jessett, the President, being in the chair.—Mrs. M. A. D. Scharlieb read a paper entitled "The Advantages of the Abdominal Route in Operations for Cancer of the Uterus." She said that a large percentage of women suffering from cancer of the uterus sought advice too late; many were not examined and a still larger number were believed to be free from the disease because the vaginal portion appeared to be healthy. If the operator was equally dexterous in operating by the vagina and by the abdomen the only probable advantage of the former was the diminution of post-operative shock. Operation through the abdomen secured: (1) a more fully exposed and convenient field of operation, (2) a better opportunity for breaking down adhesions without injury to the bladder or intestines; (3) more adequate examination and removal of pelvic glands, especially of those lying along the course of the iliac vessels, and about the bifurcation of the aorta; (4) less danger to the ureters, which might be examined and preserved uninjured while the cellular tissue was dissected away and the uterine vessels were tied on their outer side; (5) more trustworthy hæmostasis, the vessels being easily ligatured, which was a great improvement on the use of clamps, for the latter were always liable to bruise the tissues and had been known to cause necrosis and secondary hæmorrhage: (6) more easy separation of the bladder and rectum and less likelihood of injury to them; (7) the possibility of dividing the vagina low down, which was a great advantage when the disease had spread to the walls of this tube; and (8) economy of time in operating and the fact that cases which were inoperable by the vaginal route might be successfully completed by the abdominal one, more especially when the vagina was long, narrow, and rigid, as in elderly virgins and nulliparæ. It was not to be expected, however, that these advantages would be conceded by those who had practised vaginal hysterectomy for the last 20 years and whose technique was almost perfect. All would deplore the appalling percentage of inoperable cases and gladly exchange an operability of 15 per cent. for one of 60 per cent. In comparing results it was not fair to make a comparison of the results of an operation reserved for the most advanced cases with those of an operation done in less advanced cases. The parametric tissue required removal and the plan of splitting the broad ligament had much to commend it, as the uterine artery and ureter could be reached from the wall of the pelvis. A list of 21 consecutive cases was given, of which 20 made an immediate recovery, while none had yet reached the five years' limit.—Mr. A. W. Mayo Robson said that at an early stage the supravaginal operation would yield good results. As soon as the disease had extended to the body of the uterus he was clearly convinced that it was better to operate by the abdominal route. It was necessary to teach patients that if they would seek advice early they might be cured of conditions which would otherwise prove fatal.—Mrs. Stanley Boyd said that if operators saw the case as soon as they wished any good operation would succeed.—Dr. J. A. Mansell Moullin said that the treatment of cases of cancer must largely depend upon the nature of the case and the bias of the operator.—Dr. Ferdinand A. Purcell advocated the vaginal route where the disease was in the cervix, but when it had extended to the body of the uterus he considered that the abdominal route was to be preferred and that panhysterectomy was the operation of selection.—Miss Louisa B. Aldrich-Blake said that she preferred the abdominal method in all cases and quoted from 34 cases where she had operated in this manner.—The President said that the situation of the growth ought to be taken into account in determining the nature of the operation. In cases of disease of the body he preferred the vaginal method.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on May 4th and was devoted to the exhibition of pathological specimens, Mr. G. Pernet being in the chair.—Dr. E. Hobhouse (Brighton) showed a specimen of Congenital Pyloric Stenosis from an infant, aged six weeks. A day was selected for performing an operation but the child died the night before.—Dr. E. C. Mackay exhibited a specimen of Cerebrum with a Tumour situated in the anterior half of the right side which was probably *glioma*.—Dr. Edmund Cautley exhibited a Specimen of Congenital Laryngeal Stenosis from a child, aged five months, the epiglottis being folded on itself longitudinally so that the superior aperture was much narrowed.—Dr. G. A. Sutherland exhibited a skull affected with Congenital Syphilis and Hydrocephalus; it showed well marked craniotabes, also the results of intracranial drainage for hydrocephalus. The skull had contracted until the bones were over-riding.—Mr. A. N. Leathem exhibited a specimen of the Stomach showing Ulceration round the Pylorus covered with Diphtheritic Membrane.—Dr. J. G. Emanuel (Birmingham) showed three specimens of Congenital Deformity of the Heart. In the first (lent by Dr. G. W. Powell) the aorta and pulmonary artery arose from a single ventricle, which was probably the right one. All the valves were normal. In the second (lent by Dr. O. J. Kauffmann) the aorta arose from the right ventricle and the pulmonary artery from the left and the foramen ovale was widely open; this specimen was from a boy, aged 11 years. In the third (lent by Dr. T. Stacey Wilson) the membranous part of the inter-ventricular septum was absent and the aorta arose as much from the right as from the left ventricle.—Dr. F. Langmead exhibited a specimen of Primary Sarcoma of the Lung removed from a girl, aged five years. The signs during life were those of pleural effusion. No growth was found elsewhere. He also exhibited a microscopical section from a girl, aged eight months, showing many Tubercle Bacilli from the base of a gastric ulcer.—Mr. Pernet exhibited microscopical sections of Nævi Cystepitheliomatosi Disseminati (lymphangioma tuberosum multiplex). This, he said, was a very rare disease consisting of numerous small tumours situated about the upper part of the front of the chest mainly but also on the back and face. The specimen was obtained from a woman, aged 25 years, in whom the growths were said to have appeared at the age of 16 years. The histological appearances were small cysts with colloid contents and strands and aggregations of cells which Mr. Pernet considered were of epithelial origin. He also exhibited a drawing and photograph of Racial Pigmentation on the buttocks of a Siamese baby received from Mr. J. D. Gimlette of Kelantan, Siam.—Dr. G. Carpenter exhibited a Tuberculous Kidney removed by operation from a girl, aged ten years.—Mr. H. S. Clogg exhibited specimens of Fibro-Sarcoma and Angio-Sarcoma from the Parotid Gland.

Leeds and West Riding Medico-Chirurgical Society.—A meeting of this society was held on May 4th, Mr. Edward Ward being in the chair.—Dr. Adolph Bronner (Bradford) read a paper on the Modern Mastoid Operation. He said that the size and position of the mastoid cells and of the lateral sinus varied very much, and it was impossible to know how far the disease had spread before the parts were exposed. In most chronic cases it was necessary to perform the complete mastoid operation—namely, the opening up of all the mastoid cells, the attic and antrum, and the removal of the posterior wall of the osseous meatus. A large smooth-walled cavity should be formed consisting of the middle ear, attic, mastoid antrum and cells. The chisel should be used as little as possible, as there was danger of splitting the bone and damaging important parts and the concussion produced was dangerous to the brain, especially as there was always the possibility of an undiagnosed brain abscess. Suitable bone forceps and gouges were most useful and should be employed as much as possible. The electric burr was not now used so much as formerly. The treatment of the soft parts was important, as there was danger of stricture of the cutaneous meatus. Dr. Bronner generally adopted Stacke's or Ballance's method of making a flap from the posterior wall of the meatus. In cases where much bone had been removed skin-grafting was useful. In ordinary cases complete healing could be induced without grafting in from five to eight weeks. He never closed the posterior wound directly after the operation but left it open for a few days and at first dressed the wound daily. He thought it was an unsurgical proceeding to close up a foul septic wound and only to drain through the meatus. He used iodoform powder for a few days and then xeroform and plugged with aluminium gauze. Iodoform if used for any length of time caused excessive growth of granulation tissue. The application of peroxide of hydrogen was useful during the operation and also in the after-treatment.—Mr. Harold Upcott read a paper entitled "A Study of Epithelial Tumour of the Prostate," based on the examination of 33 specimens removed by operation. He said that in 27 of the specimens the enlargement was due to adenomatous or fibro-adenomatous growth; in five carcinoma was revealed by the microscope, and in only one was the change purely fibrous. The overgrowth of glandular tissue might give rise to one or more localised enucleable tumours, or, when arising from numerous foci, might cause a fairly symmetrical enlargement, affecting mainly the lower poles of the lateral lobes, its growth occurring chiefly in a forward direction. Of the cancerous prostates, two had been removed in fragments, two were but slightly enlarged and were shelled out whole, while the fifth was markedly enlarged. Malignant disease of the prostate could not be diagnosed in the majority of cases except by microscopical examination; to the naked eye the scirrhous cancer resembled the simple fibrous prostate, while a prostate affected with a more cellular growth might be indistinguishable from an adenomatous prostate.—Mr. M. A. Teale showed a case in which Landman's Wire Artificial Vitreous was Introduced into the Cavity of the Left Sclerotic four weeks ago.—Dr. A. S. F. Grünbaum (with Dr. O. C. Gruner) showed a specimen of Parotid Epithelioma Invading the Spinal Canal; and (with Dr. R. D. Smedley) Spirochæta Pallida in the Ape.—Cases and specimens were also shown by Mr. G. Constable Hayes, Mr. W. H. Brown, Mr. E. Ward, Dr. Gruner, Mr. B. G. A. Moynihan, Mr. R. Lawford Knaggs, Mr. E. Robinson, Dr. T. Churton, Mr. J. F. Dobson, Mr. H. Littlewood, Dr. E. F. Trevelyan, and Dr. W. H. Maxwell Telling.

Otological Society of the United Kingdom.—A meeting of this society was held on May 7th, when a discussion on Fixation of the Stapes was opened by Dr. Urban Pritchard. He divided the forms of fixation of the stapes into the following: 1. Fibrous: (*a*) due to fibrous bands, chiefly in the pit of the stapes; and (*b*) due to a solid mass of organised and hardened granulation tissue. 2. Osseous: (*a*) from ossification of the annular ligament in the course of otosclerosis; and (*b*) from ossification of organised granulation tissue. Fixation of the stapes was, he said, in any form absolutely fatal to return of good hearing. There was no known treatment of any avail in osseous fixation and fibrous fixation by a solid mass of new tissue presented almost the same difficulties to treatment. The prognosis and treatment in fixation by fibrous bands were a little more hopeful. Something could be done by forcible inflation, by iodides, and by direct mechanical mobilisation.—Dr. Thomas Barr described the differential diagnosis of fixation of the stapes as it occurred: (1) from otosclerosis; (2) from adhesive middle-ear catarrh; and (3) from purulent processes in the middle ear. In simple uncomplicated cases due to otosclerosis differentiation during life was not attended with much difficulty. Differentiation from labyrinthine affections rested on tuning-fork tests. Information might be derived from making a window opening in the posterior superior quadrant of the tympanic membrane and he considered it important that more work should be done in securing anatomico-pathological confirmation of conclusions derived from clinical observations during life.—Mr. Richard Lake described cases of fixation under the headings of false or true. False he described as represented by (1) fixation of the malleus; (2) fixation of the malleus, with changes in the vestibule and the oval window; and (3) changes due to sclerosis of the mucous membrane in the vestibule—(*a*) as part of a general sclerosis of the air passages and (*b*) as the result of post-inflammatory trouble in this region. True fixation, he considered, as (1) the result of chronic suppuration, and (2) the result of rarefying osteitis of the labyrinthine capsule.—Dr. Albert Gray considered that fixation of the stapes was not, properly speaking, a pathological entity, as it might be the result of injury to the stapedio-vestibular articulation, of suppuration spreading into the joint from the tympanum, or from bony changes in the capsule of the labyrinth.—Mr. L. A. Lawrence considered that Gellé's test was not trustworthy in the diagnosis of ankylosis and suggested that paracusis was due to vibration and not to increased noise, instancing the fact that a patient with this symptom heard better when driving in a rubber-tyred hansom than in one with iron tyres.—Dr. J. Dundas Grant drew attention to the frequency of otosclerosis in anæmic young women and in osteo-arthritic patients.—Mr. Yearsley pleaded for uniformity of tuning-fork tests and their more general use in reporting cases.

Pathological Society of Manchester.—A laboratory meeting of this society was held on May 9th. The meeting was devoted to a demonstration of specimens and methods, of which the following were shown.—Dr. W. B. Anderton: Mixed Tumours.—Dr. E. M. Brockbank: Some Varieties of Red Blood Corpuscles.—Dr. J. Cameron: The Cytological Changes in the Cell Nuclei of Embryonic and Malignant Tissues.—Dr. A. Hill Griffith: Tuberculosis of the Iris.—Professor I. Walker Hall: Various.—Dr. Loveday: The Determination of the Opsonic Index.—Dr. Mair: Hodgkin's Disease simulating Pernicious Anæmia.—Dr. J. Dixon Mann: (1) Various Urinary Pigments with their Spectroscopic Reactions; and (2) Bilicyanin, a Disputed Fæcal Pigment.—Dr. S. Moritz: A New Urine Saccharimeter.—Dr. D. Orr and Dr. R. G. Rows: Various Lesions of the Central Nervous System.—Dr. D. Lloyd Roberts and Dr. W. E. Fothergill: Illustrations of Gynæcological Pathology.—Dr. Roberts: Primary Tracheal Diphtheria in an Adult.—Professor J. Lorrain Smith: A Peculiar Reaction in Lardaceous Tissues.—Dr. S. Powell White: (1) Lipoma in a Parrot; (2) Renal Carcinoma in a Rabbit; (3) Myeloid Sarcoma in a Drake; and (4) Carcinoma of the Thyroid in a Mouse.

Harveian Society.—A clinical meeting of this society was held on May 10th at the Paddington Infirmary. Dr. Maurice F. Squire showed the following cases: 1. Hæmorrhage into the Right Crus Cerebri. The patient was a woman, aged 57 years, who fell down on getting out of bed and remembered nothing more until the next day. On admission to the infirmary there were complete paralysis of the muscles supplied by the right third nerve, paresis of the left face, arm, and leg, with deviation of the tongue to the left. Her condition improved so that she could partially open the right eye, but now movements of the left eye were impaired so that she could not move it beyond the middle line in either direction. The discs were normal. 2. Periostitis of the Humerus in a child, aged three years. A twin brother had a similar affection in one arm. 3. Infantile Paralysis in a child, aged two years, affecting the anterior tibial muscles of the right leg. 4. A case of Sprue in a man, aged [illegible] The patient was a soldier who had been eight years in India where he had had "continued fever." The present illness started six months after return home in 1904 with vomiting and diarrhœa which had persisted on and off ever since. On admission in April, 1905, there were emaciation, denudation of epithelium of the tongue, and copious offensive light-coloured stools. (The case was discussed by Dr. W. H. Willcox who had found a milk diet beneficial in a similar case.) 5. A case of Scleroderma in a man, aged 43 years. The disease had commenced at the age of 14 years. There were patches of scleroderma on the shins, feet, thighs, and arms. 6. Carcinoma of Pylorus with secondary growth in the liver in a man, aged 45 years. 7. A case of Myopathic Dystrophy. 8. Dislocation of the Sternal End of the Left Clavicle in a man, aged 70 years, who was knocked down by a van, the wheel of which passed over his chest and fractured the second and third ribs on the left side as well.—Dr. Willcox showed a case of Rheumatoid Arthritis in a boy, aged ten years. Two years ago he complained of pain in the hands and feet and gradual thickening of the joints took place. There was now marked thickening on the inter-phalangeal joints in both hands with limitation of movement and also thickening of the interphalangeal joints of the toes. The hands and feet were always cold and turned blue in cold weather. The patient frequently suffered from chilblains.—The case was discussed by Dr. W. Winslow Hall and Dr. H. J. Macevoy.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. M. Mackintosh, the President, being in the chair.—Dr. G. F. McCleary, the medical officer of health of the borough of Hampstead, read a paper on the Decline in the English Birth-rate and its Causes. He observed that the phenomenon of a declining birth-rate was to be seen in most civilised countries. In England the birth-rate had fallen from 35·3 in 1873 to 27·2 in 1905, and there was reason to think that the decline would continue. 10 per cent. of the decline was due to the decrease in illegitimacy, 20 per cent. to a decrease in the marriage-rate, and 70 per cent. to lessened fertility of married women. The latter was due in part to alterations in the age constitution of the population of married women at child-bearing ages, which now contained a greater proportion of older married women than in former years; to the use of artificial means to prevent conception; and possibly to an increase in involuntary sterility. It was not unreasonable to suspect that the function of maternity had to some extent been undergoing atrophy in the modern Englishwoman; for in recent years there had been (1) a decline in lactation; (2) an increased infantile mortality from premature birth; and (3) a decrease in the proportion of male births. It was important that the decline in the birth-rate should be studied by medical men, for it was not improbable that the profession might be called upon to make an authoritative statement on some aspects of the subject. The birth-rate was a matter of special concern to the people of this country, for our colonies, though vast in extent, were poor in population and the colonists of British blood were not fertile. The birth-rate in some of the Australian colonies and amongst the English Canadians was little higher than that of France and unless the British became more fertile it was doubtful whether the British empire would long remain British in anything but name.

Reviews and Notices of Books.

Wharton and Stillé's Medical Jurisprudence. Vol. II.: Poisons. By ROBERT AMORY, A.M., M.D., and ROBERT L. EMERSON, A.B., M.D. Fifth edition. Rochester, N.Y.: The Lawyers' Co-operative Publishing Co. 1905. Pp. 858.

IN presenting the fifth edition of this well-known work the knowledge of the action of poisons upon the living organism as demonstrated by the more recent literature published in Europe and America has made it necessary for the editors to make a complete change in the classification of the groups of poisons adopted in the former editions. The older writers on the subject of toxicology were inclined to classify poisons in groups indicated by similar symptoms following their administration. The editors consider that this method tends to confusion and consequently they have deemed it better to classify poisons more in accordance with their chemical and physical relations. An expert familiar with chemistry, when investigating the matters removed from the body of a person who is supposed to have met his death by poisoning, or in examining solid or liquid food, matters that might be so contaminated, naturally pursues a regular order of chemical analysis; his researches, therefore, would be more readily assisted by reference to a work arranged according to a chemical classification. This is perfectly correct if the book is intended mainly for laboratory work but for reference by a medical practitioner we believe that the old classification would prove more serviceable.

Much of the work of the former editors of previous editions has been retained in the present issue. The most important judicial cases, some of which were to be found in the text of the previous editions, have now been placed in the appendix. This is a good procedure, as the insertion of full accounts of such cases in the general body of the work is likely to interrupt the continuity of the description of the action of the poison. The portions of this edition which relate more especially to chemical research have been thoroughly revised and obsolete methods for the detection of poisons have been replaced by processes which have borne the test of the more recent advances in that science.

In reading the work it soon becomes apparent that the editors have spared no trouble to render it as complete as possible. From the large number of references in the footnotes it is evident that the compilation of the views of the various authorities on toxicology covers a wide field of research and that much patience and perseverance are required to sift the vast amount of literature that has accumulated during recent years. Attention is especially directed to the action of the more recent forms of poisons commonly used in the industrial arts, such as carbolic acid and wood alcohol, and a chapter has been introduced on ptomaine poisoning caused by food. For convenience of reference every chapter is divided into sections each of which is numbered, the numbers running consecutively from the commencement of the book. A very full and complete index is given, the various subjects being indicated by the numbers of the sections in which they will be found and not by those of the pages; the required information can therefore very readily be obtained. The whole work is an excellent one and deals most thoroughly with the subject of toxicology. It will be found especially useful by those practitioners who are engaged in medico-legal work either as coroners or as experts.

The Rheumatic Diseases. By J. ODERY SYMES, M.D. Lond., D.P.H., M.R.C.S. Eng., L.R.C.P. Lond., Assistant Physician and Bacteriologist, Bristol General Hospital. London and New York: John Lane, the Bodley Head. 1905. Pp. viii.–233. With 23 illustrations. Price 5s. net.

THIS volume, the first of a series entitled the Practitioner's Handbooks, deals with those affections of the joints to which the descriptive adjectives "rheumatic" and "rheumatoid" are commonly applied. In his introduction Dr. Symes points out that there is an increasing tendency to restrict the use of the word *rheumatic* to such conditions as are excited by a specific micro-organism—the diplococcus rheumaticus. At the same time until the causation of all those forms of arthritis associated with various acute infective processes has been clearly established he is of opinion that it is convenient to retain the common names for them, such as gonorrhœal rheumatism and scarlatinal rheumatism. Unfortunately, the term "rheumatic" has been also used to indicate conditions caused by exposure to cold whereby considerable confusion has resulted. Consequently the sooner

nised forms in the "De Simplici Medicina." Naturally information is almost as valuable to botanists as to ical scholars, whilst folklore and superstitions of various s are frequently illustrated. The book concludes with xcellant bibliography and indices of modern names and he Arabic words enumerated in the work.

JOURNALS AND MAGAZINES.

he Edinburgh Medical Journal.—In the May number P. McBride discusses Hysterical Deafness, pointing out difficulty of diagnosis in this condition—a difficulty only red up, indeed, when the affection disappears. Mr. n S. McArdle writes of the Radical Cure of Inguinal nia, noting the importance of leaving the inner surface the abdominal wall perfectly smooth and of bringing n the oblique and transversalis muscles to Poupart's ament as well as the conjoined tendon; and Mr. B. G. A. ynihan records some instances of violation of the so-called aw of Courvoisier"—viz., that in calculous obstruction the common bile-duct the gall-bladder is not enlarged, ereas in obstruction due to other causes enlargement is rule. Dr. Purves Stewart contributes an interesting per on the Clinical Significance of the Cerebro-spinal uid, especially in the early diagnosis of tabes dorsalis and neral paralysis.

The Scottish Medical and Surgical Journal.—Perhaps the st interesting paper in the May number of this journal is at by Dr. J. Eason on Paroxysmal Hæmoglobinuria. In it supplements his former observations, pointing to the teraction of two bodies—a complement and an intermediary body—in producing hæmolysis in this affection. d brings forward evidence that the action of cold is necesry for the attachment of the intermediary body to the ood corpuscles. Dr. A. A. Scot Skirving contributes an ticle on Oral Syphilis, in which the importance of proibiting smoking in cases of such disease is insisted upon nd a plea made for the more frequent use of the inunction ethod of administering mercury. Dr. A. Dingwall Fordyce rites of the suprarenal glands in various affections and ome notes on gynæcological matters are contained in a aledictory address delivered by Dr. N. T. Brewis to the dinburgh Obstetrical Society.

The Medical Chronicle.—The May number opens with an nteresting paper by Professor W. Osler on Angina Pectoris s an Early Symptom of Aneurysm of the Aorta, suggesting hat this symptom depends on structural changes in the walls of the vessel. Dr. Arnold W. W. Lea points out the possibility and also the utility of drainage of the peritoneum through the vagina in young children and Dr. R. T. Williamson writes on the treatment of diabetes mellitus, dvocating aspirin as a useful remedy in mild cases and giving some hints as to diet.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on May 10th, Sir ICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, eing in the chair.

The following Members who had been elected to he Fellowship at the last meeting were admitted as ellows:—Dr. Samuel Walton Wheaton, Dr. Frederick Villiam Barton-Fanning, Dr. John Hill Abram, Dr. George enkell Drummond Robinson, Dr. Richard Tanner Hewlett, r. Ernest Graham Gordon Little, Dr. Charles Richard Box, r. Maurice Craig, Dr. James Purves Stewart, Dr. Thomas rves Horder, Dr. James Hugh Thursfield, and Dr. Edward arquhar Bernard.

The PRESIDENT announced that he had nominated Sir illiam S. Church and Dr. G. A. Heron as representatives of the College on the general committee of the Second International Congress on School Hygiene to be held in London from August 5th to 10th, 1907.

A communication was received from Mr. Reginald Blunt, asking permission to photograph the portrait of Dr. Messenger Monsey, in possession of the College, to illustrate his forthcoming book on "Chelsea" which deals particularly with the physicians of the Royal Hospital.—The request was granted.

A report was read from Dr. Frederick T. Roberts, representative of the College on the court of governors of the University of Sheffield, on a meeting of the court which had recently been held.

Dr. Norman Moore was re-elected the representative of the College in the General Council of Medical Education and Registration. The PRESIDENT thanked Dr. Moore for the services which he had rendered to the College in acting as its representative and Dr. MOORE replied, thanking the College for his re-election.

A report, dated April 24th, was received from the adjudicators of the Weber-Parkes prize for 1906, stating that no essays had been received.

A report, dated Feb. 12th, was considered for the second time from the committee appointed to prepare a revised edition of the College by-laws; the additions and alterations therein proposed were finally enacted.

The PRESIDENT then dissolved the Comitia.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 17th, 1828.

SPONTANEOUS COMBUSTION.

In the *Journal de Pharmacie*, there is a case recorded by Professor Rudolphi, of a man who suddenly felt a pain in the arm, similar to that produced by the blow of a stick, and immediately perceived in the same spot a small flame, which burnt his shirt. There is also the case of a girl mentioned, seventeen years of age, in whom a kind of bluish sulphureous flame appeared around the finger; the flame could not be extinguished by water: it burnt the clothing brought into contact with it, but could only be distinguished in the dark. The best electrometers placed in contact with the patient, presented no sign of electricity.

Nothing can be more empirical, than making disease subservient to remedies; but though truly unscientific, we every day see men who should know better, degrade themselves by following this line of practice. For example: one oculist will bleed, &c., in all cases of ophthalmia; form all artificial pupils on the principle of Gibson, and, in every case of cataract, operate with a needle; on the contrary, another man will use solutions, and ointments, as the only remedies for conjunctival ophthalmia; make pupils as recommended by Cheselden, and even attempt to extract membranous cataracts. In like manner, one surgeon is so devoted to the double circular incision, that he performs no other, though his coadjutor, in the same hospital, is bigoted to the double flap operation, and never amputates but after this manner. But, the unprejudiced practitioner will look to the nature of the case, and adjust means accordingly; for only by thus acting can he be of public utility, and honestly beneficial to himself.[1]

In a trial which took place in the county of Suffolk in 1808, Pizzy, a farrier, and another person, were indicted for administering medicines with an intent to produce abortion. It was proved on the trial, that the medicines failed in effecting the intended object, and that it was at length accomplished by mechanical violence. In consequence of the defective state of the law, which has made no provision in respect to manual operations, the criminal was tried for giving medicine which had no effect, whilst the means by which the crime had actually been perpetrated, were only admitted in evidence as proof of the intention with which the medicines were given![2]

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[1] Foot-note to an article headed "Amputations," by Dr. George Bushe.

[2] Foot note to a discussion at a meeting of the London Medical Society on the use of spurred rye and of digitalis.

THE LANCET.

LONDON: SATURDAY, MAY 19, 1906.

The Interim Report of the Antityphoid Inoculation Committee.

THE committee appointed by the Army Council to investigate the practical, prophylactic and therapeutic value of current methods of immunisation against typhoid fever has held six meetings since its inauguration on May 11th, 1904. Surgeon-General A. H. KEOGH opened the original proceedings on behalf of the Army Council, informing the members of the committee that it was not intended that they should undertake such investigation, "but for this purpose competent officers of the Royal Army Medical Corps should be detailed, the lines of their researches being laid down for them and their work being supervised by the committee." The committee, which consists of Dr. W. BULLOCH, Dr. F. FOORD CAIGER, Dr. JAMES GALLOWAY, Major W. B. LEISHMAN, R.A.M.C., Dr. R. BRUCE LOW, Dr. ALLAN MACFADYEN, and Professor A. E. WRIGHT, with Dr. C. J. MARTIN as chairman, proceeded to its work upon the lines suggested by Surgeon-General KEOGH, and has now issued an interim report setting forth the opinions arrived at and suggesting propositions as to further investigation. The object of this report is to satisfy the Army Council of the urgent need of this further investigation and of the necessity of providing the requisite machinery for carrying it out.

In this report the committee sets forth a list of all the documents bearing on the subject, containing all the available data relating to antityphoid inoculation; these consist of 16 reports, letters, original papers, and memoranda placed at the disposal of the committee by the Army Medical Department. The committee states that, having carefully considered the whole of the statistical material, it is satisfied that "the records which are available up to date furnish proof that the practice of antityphoid inoculations in the army has resulted in a substantial reduction in the incidence and death-rate from enteric fever among the inoculated." The committee further states that the statistical records support the scientific observations that the protective substances which are developed in the human organism after antityphoid inoculation are identical with those developed in the course of an attack of typhoid fever, and that animals can be rendered resistant to typhoid fever by the same process of inoculation as that used upon man. As a consequence of these conclusions the committee recommends that the practice of voluntary inoculation against typhoid fever in the army should be resumed. It also strongly urges the Army Council to provide facilities for the execution of the following investigations: First, investigations with the present form of vaccine (standardised typhoid cultures sterilised by heating to 60° C.) upon troops leaving for foreign service, with a view to determine the protective value of varying doses of vaccine, the number of doses to be administered, and also the duration of the protection conferred; secondly, investigations upon animals in order to improve the vaccine if possible; and thirdly, an investigation of the development of protective substances in the blood of patients suffering from, and convalescent from, typhoid fever. The committee recommends that these investigations should commence forthwith, and in its report proceeds to outline the necessary arrangements, which comprise (1) the inoculation under careful supervision, at least one month prior to embarkation, of volunteers from each regiment proceeding from this country to India, (2) the attachment of a junior officer of the Royal Army Medical Corps to each regiment to proceed abroad and to remain with it for at least three years, acting under the directions of the committee as regards the inoculations and the collection of statistics in connexion with them, and (3) the collection by the headquarters of the Army Medical Department of statistics relating to inoculations which may be carried out in addition to those on the above-mentioned selected units. It is further pointed out that the difficulties of the investigations proposed will, in the first instance at any rate, necessitate the active supervision of experts who have made a special study of this kind of research, and that owing to the scientific laboratories of the Royal Army Medical College being at present incomplete the vaccine should be derived from a source to be approved by the committee.

There is a minority report attached to the main report signed by Dr. BULLOCH and Professor WRIGHT, who, while agreeing with the conclusions and general recommendations of their colleagues, are of opinion that the temporary calling in of experts to the assistance of the army medical officers would fail to meet the requirements of the case. They suggest that a "*quasi*-permanent organisation" is necessary in order that the vaccine and the details of the inoculations may be continually modified in the light of information gained by research. We cannot but feel that this difference of opinion among the members of the committee is regrettable, as the distinction between temporary expert assistance, as suggested by the majority report, and "a *quasi*-permanent organisation" does not seem to be a very great one, especially when we are told that the proposed organisation should consist of "medical officers working in association with civilian experts." We think that Dr. BULLOCH and Professor WRIGHT might have agreed *in toto* with their colleagues, though we are certain that they considered the claims of science would be better served by their differing. With the conclusions of the committee and its recommendations we most cordially agree. A study of the statistics available in 1904 will show that the incidence of typhoid fever among the inoculated was reduced to at least one-half of that among those not inoculated, and a similar reduction was observed in the case mortality of those contracting the disease after inoculation compared with that among the non-inoculated. When the enormous losses which this disease causes in the army both in war and peace are taken into consideration—e.g., the deaths in India alone amount to half a battalion a year—the importance of the investigation of prophylactic measures becomes at once apparent, and we may express the hope that the Army Council will put the recommendations of the committee into effect as soon as the necessary organisation can be brought into being.

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When it is understood that the University had to face such a procedure as we have indicated it is not perhaps to be wondered at that it was difficult to stir her up to make the necessary effort to reform anything. That she should now seek emancipation from her bondage indicates, we venture to believe, that she feels the spirit of dissatisfaction which has been steadily growing with regard to education and that she perceives that she can only adapt herself readily to changing times and circumstances by obtaining practical autonomy. How great is the present bondage of the Scottish Universities will be appreciated when it is known that in the Faculty of Medicine, for instance, the University cannot divide a subject taught from one chair and have two professors instead of one, cannot alter the times at which students may sit for examination, or modify the grouping of the subjects on which they are examined, without a new ordinance which may have to struggle against the resistance of a sister university which either does not consider the proposed changes desirable or objects to advances which she is not in a position to adopt. It is a curious result of legislation to find it obstructing advance in one university because the other universities may not be in a position to advance equally. Such legislation was useful and at one time probably necessary to maintain the standard of Scottish University degrees, and the law framers cannot be greatly blamed for not foreseeing that the problems before the universities in the near future would be their adaptation and extension to meet the requirements of advances in knowledge rather than the exercise of a mutual check to prevent degradation or underselling. That the Scottish Universities now should be granted as great a measure of autonomy as has been given to the newer English Universities will not be seriously questioned, and it is probable that Parliament will be ready to grant a Bill for what is practically a dissolution of partnership, care being taken that examination standards are maintained. Such freedom would greatly favour the development of the individual Universities and would introduce an influence that would attract benefactions for the extension of teaching and of research. We are necessarily interested in all centres of medical instruction and in all measures having for their object the improvement of medical education and the advancement of medical knowledge, and now that Edinburgh has through her General Council declared her need of greater freedom it is hardly credible that she will not be strenuously backed by the other Scottish Universities and that she will not be supported in her demand by the medical and the lay press.

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The Licence of Quackery and Superstition.

THE protracted inquiry into the death of Major JOHN NICHOLAS WHYTE which was held by Mr. TROUTBECK, the coroner for Westminster, during the early part of this month has been reported in full in many newspapers and with such details as have yet been published many of our readers are no doubt familiar. As the

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When it is understood that the University had to face such a procedure as we have indicated it is not perhaps to be wondered at that it was difficult to stir her up to make the necessary effort to reform anything. That she should now seek emancipation from her bondage indicates, we venture to believe, that she feels the spirit of dissatisfaction which has been steadily growing with regard to education and that she perceives that she can only adapt herself readily to changing times and circumstances by obtaining practical autonomy. How great is the present bondage of the Scottish Universities will be appreciated when it is known that in the Faculty of Medicine, for instance, the University cannot divide a subject taught from one chair and have two professors instead of one, cannot alter the times at which students may sit for examination, or modify the grouping of the subjects on which they are examined, without a new ordinance which may have to struggle against the resistance of a sister university which either does not consider the proposed changes desirable or objects to advances which she is not in a position to adopt. It is a curious result of legislation to find it obstructing advance in one university because the other universities may not be in a position to advance equally. Such legislation was useful and at one time probably necessary to maintain the standard of Scottish University degrees, and the law framers cannot be greatly blamed for not foreseeing that the problems before the universities in the near future would be their adaptation and extension to meet the requirements of advances in knowledge rather than the exercise of a mutual check to prevent degradation or underselling. That the Scottish Universities now should be granted as great a measure of autonomy as has been given to the newer English Universities will not be seriously questioned, and it is probable that Parliament will be ready to grant a Bill for what is practically a dissolution of partnership, care being taken that examination standards are maintained. Such freedom would greatly favour the development of the individual Universities and would introduce an influence that would attract benefactions for the extension of teaching and of research. We are necessarily interested in all centres of medical instruction and in all measures having for their object the improvement of medical education and the advancement of medical knowledge, and now that Edinburgh has through her General Council declared her need of greater freedom it is hardly credible that she will not be strenuously backed by the other Scottish Universities and that she will not be supported in her demand by the medical and the lay press.

The Licence of Quackery and Superstition.

THE protracted inquiry into the death of Major JOHN NICHOLAS WHYTE which was held by Mr. TROUTBECK, the coroner for Westminster, during the early part of this month has been reported in full in many newspapers and with such details as have yet been published many of our readers are no doubt familiar. As the inquiry has been followed by a verdict of manslaughter, and as the accused is at the present moment under remand at the Westminster police court, we shall, of course, not be expected to comment upon any of the extraordinary and terrible features of the story. The prisoner is a qualified medical man, whose name remains upon the official roll of the profession but who has stated in the coroner's court that he has left the ranks of medicine to become a "Christian Scientist," and the question of his guilt or innocence must undoubtedly be complicated by the fact that he had once earned proper medical and surgical diplomas and had been engaged in the exercise of his calling in several responsible situations. Whether Major WHYTE actually died because of the treatment received at the hands of the "Christian Scientists" (perhaps we should say because of the neglect of treatment prescribed by that sect) will be decided by a court of law, and all the circumstances point to the legal investigation being of deep interest to the medical profession. They should be of corresponding interest to the public, for if Major WHYTE's death is found to be traceable to "Christian Science" the public might well be asked to notice the dangerous height to which distrust of the medical profession has been allowed to grow in this presumably educated country. This distrust has been implanted in the breast of the public by the many onslaughts which scientific medicine sustains at the hands not only of the purely venal quack but of our presumably educated classes. Major WHYTE, having a fractured spine, was snatched back from the gates of death by prompt surgical interference—the "Christian Scientists" themselves would probably allow this, for they are understood not to attempt the treatment of fractures, against the pain and deformity of which Mrs. EDDY's ritual is inefficacious. An operation of a dangerous and difficult character was successfully performed upon the unfortunate man; it resulted in the immediate saving of life and the opening up of a prospect of considerable prolongation of that life in circumstances which would not necessarily be unendurable. Major WHYTE, with whose desire to try all and every means that could restore him to health and vigour every one of us must sympathise without reservation of sort or kind, believed that "Christian Science" held out to him the opportunity that he sought. So he deserted medical procedure for the tenets of Mrs. EDDY and died in circumstances of the most appalling misery. The law will now decide how far that death, despite the unremitting attendance of his body-servant, was due to neglect of medical precautions by those who had taken the responsibility of treating his case. Such a story, whatever the outcome of legal procedure may turn out, would not be possible were it not for the tolerant attitude of men of education and authority, and of a large section of the press, towards the claims of quackery and towards the avowed opponents of medical science in all shapes. "Christian Science" is known to be a fad among rich and well-born people; a Member of Parliament has recently from his place in the House accused medical men of being pecuniarily interested in the death of their patients; men of a certain amount of education and position, as well as a few literary men and humorists, are found ready to stigmatise those who are engaged in the work of medical research as bloody-minded torturers; and the proprietors of certain newspapers receive with both hands money for the insertion of the grossest inventions of the charlatan. These are the things which have undermined the public trust in medicine; these are the things which have accustomed the wits of persons, otherwise sane, to believe that the purchased prayers of an ESTHER MARIA GRANT, uttered in deference to the expositions of a MARY BAKER G. EDDY, will work therapeutic marvels.

Annotations.

"Ne quid nimis."

THE ANNUAL DINNER OF THE PHARMACEUTICAL SOCIETY: DR. DONALD MACALISTER ON THE POISONS AND PHARMACY BILL.

IT might have been safely anticipated that there would be one subject the claims of which for discussion would be paramount in the speeches at the annual dinner of the Pharmaceutical Society, held in the Whitehall Rooms of the Hôtel Métropole on Tuesday last, May 15th. We refer to the acceptance by the House of Lords on May 11th of Lord Ebury's amendment to the Poisons and Pharmacy Bill, which legalises the use of chemists' titles by limited liability trading companies. After the usual loyal toasts had been honoured the President of the society, Mr. Alderman R. A. Robinson, J.P., L.C.C., in giving from the chair the toast of "The Houses of Parliament," said that he was sure that the peers who voted for the amendment of Lord Ebury did not fully understand the import of it. (Our readers will find in a full report of the debate in question at p. 1441 of this issue of THE LANCET the wording of Lord Ebury's amendment.) The decision come to by the House of Lords, which permitted persons who had passed no examinations to act as chemists, pharmacists, and druggists, did not merely concern the use of these titles. Their lordships' action meant that in future a company of unqualified persons would not be obliged to make up medical prescriptions according to the British Pharmacopœia. Such a company need not keep strong poisons, in accordance with the poisons regulations which are incumbent upon registered chemists. The net result of the amendment was thus to take the trading companies out of the regulations which were framed for, and enforced upon, pharmaceutical chemists for the safety of the public and in the interest of public health. Mr. Robinson trusted that the matter would be put right either in the House of Lords, while there was still time, or in the House of Commons later. In proposing the toast of "The Pharmaceutical Society" Dr. MacAlister, the President of the General Medical Council, made an important speech upon a subject that must especially interest him. He remarked that, like the General Medical Council, the Pharmaceutical Society is charged with a double duty, that of the education and the registration of pharmaceutical chemists. Registration and its privileges was the reward offered by the legislature to those who, by long and careful education, have qualified themselves, and after strict examination have proved themselves worthy to receive it. Registration was a personal recognition of personal fitness, and the so-called privileges of registration are merely the acknowledgment by the State that skilled work should be intrusted only to skilled hands and heads. So long as these privileges are open to any citizen who is found fit to be qualified it was, he considered, a gross terminological inexactitude to speak of them as being the monopoly of a class. It would be unjust and dangerous to the public for the State to allow an unintentional and unforeseen defect of the law to frustrate its purpose. The State meant by the principle of registration to hold out inducements towards personal qualification; it imposed limitations on the baneful activity of the unqualified in order to secure a constant supply of persons willing and also thoroughly able to serve the public as pharmacists, as dentists, or as medical practitioners. An ingenious application, however, of the law of companies, originally enacted for financial purposes only, has in certain hands gone far to nullify the inducements offered by the State and to break down the limitations protecting properly qualified practice. The General Medical Council, he added, had for years sought to persuade the legislature to restore to the public the safeguards that were meant for its protection and he believed that Parliament must sooner or later be brought to see the evil which must arise from the actions of unqualified persons exempting themselves by incorporation in greater or less degree from the reasonable restrictions of legislation. It was incumbent on Parliament to find a remedy for the present state of affairs. The plea for a reform in the law was surely unanswerable, for the law now lays down that what is illegal for one person becomes legal when seven men join to do it in a company! Mr. Tweedy, the President of the Royal College of Surgeons of England, replying to the toast of "The Medical Profession," said that he hoped that the Pharmacy Bill when it came before the House of Commons, where it would be discussed upon its merits, would finally be successfully passed, and all the medical profession will agree with him in this sentiment. After a short programme of music the proceedings at a very interesting dinner terminated.

THE MEDICAL DEFENCE UNION.

WE have received a copy of the "Annual Report and Statement of Accounts for the year 1905 of the Medical Defence Union." This forms the twentieth report since the incorporation of the society and the members may be congratulated upon the attaining by the union of its majority. To mark this year the council decided to hold the annual general meeting at Birmingham, a wise conclusion which will be sure to give satisfaction to those members resident in the Midlands. The report once more proves the great value of such a society. No member of the medical profession, be he consultant or general practitioner, is secure from attack by ill-disposed individuals. In addition, such attacks are usually made by persons totally without means, the main object apparently being to attempt to levy blackmail. Mr. W. E. Hempson (solicitor to the union) draws especial attention to this point in his exceedingly able and interesting report. Speaking of such cases, he says: "It is always to me, even now, with the experience I have had in the light of the union's work, a mystery as to how on earth people of the class I have indicated are enabled to get actions undertaken for them. The grounds of action are more often than not of the flimsiest character possible, though in many instances the patient, in his ignorance only, believes he has a grievance. What surprises me is that he can get his action taken up for him by a legal adviser who is prepared to conduct the proceedings on the footing of 'no cure no pay,' but that it is possible is sufficiently demonstrated by the records which I have given." We can cordially recommend to our readers a perusal of this report. The numerous cases cited by Mr. Hempson or noted in the schedule of cases selected from the minute book will at once demonstrate the necessity which we have so frequently insisted on of every member of the medical profession joining one of the defence societies. The cases quoted, however, by no means represent the total amount of work done but only a proportion of such. Were the council to publish details of all cases dealt with by the executive the report would require to be extended beyond reasonable limits. The secretary (Dr. A. G. Bateman) daily gives verbal advice to members calling at the office The main object of the union is to aid the members speedily and efficiently and therefore the secretary and the solicitor are empowered to act when necessary without waiting for a meeting either of the council or of the executive committee, reporting, of course, to the meeting following such action. By this method no delay in active intervention on behalf of a member threatened with an action is caused, and by such prompt intervention many a case is crushed at its initiation which if delay had been permitted would have gained power and strength and necessitated heavy expenditure of both time and money. It is this speedy action which is of such immense advantage to members of the union. If a practitioner is not a member such specially skilled and prompt advice is most difficult to obtain and the costs mount up at an amazing pace, and, as we have above pointed out, owing to the social and pecuniary position of those bringing such actions such costs can rarely be refunded. During the year 1905 188 cases were referred to the solicitor, 65 of which related to the suppression of libels and slanders published of, or concerning, members of the union; 22 to the defence of members in actions threatened or prosecuted and in which damages were claimed for alleged malpraxis; 19 were associated with the prosecution of unqualified practitioners; and 82 were of a personal and miscellaneous character. Notwithstanding the heavy expenses thus incurred we are glad to see by the balance-sheet that the finances of the union are in a most satisfactory condition. The total number of members on the register amounted to 6575, 532 new members having been admitted during the year.

IS ASPARAGUS WHOLESOME?

ASPARAGUS is the precursor of the season of fresh vegetables and there is probably no other vegetable the flavour of which is so highly esteemed as is that of tender asparagus. Chemical analysis offers no explanation of its pleasant flavour but assigns to it a decidedly high nutritious value. Asparagus, however, furnishes one of those interesting examples of a food which, though containing more water in its composition than does milk, is nevertheless a solid substance. Thus the head of the asparagus contains slightly more than 93 per cent. of water, which is only 1 per cent. less than that contained in the lettuce but 5 per cent. more than is present in milk. The solid constituents, however, are particularly rich in nitrogenous substances which amount to 30 per cent. of the dried vegetable. Amongst these may be reckoned a purin body, to which has been ascribed the harmful influence of asparagus on some persons with a gouty tendency. When asparagus is consumed in large quantities the output of uric acid is very distinctly increased. The same effect is obtained after drinking copiously of beer which also contains purin bodies, although they are entirely absent in wines and, of course, in spirits. Sweetbread may be objectionable on similar grounds. There is no reason for thinking, however, that when asparagus is eaten in reasonable quantities it causes any undesirable disturbance of the bodily functions. On the contrary, it is very digestible and is easily tolerated, even by invalids. A certain amount of prejudice exists in regard to asparagus owing to one peculiar effect on metabolism, which is well known to every consumer of it. During digestion a very small quantity of volatile product containing sulphur is formed which has a particular odour. This body, known as methylmercaptan, originates during intestinal digestion, most probably from the peculiar principle, asparagine, and has no reference apparently to the function of the kidneys. There are no doubt examples of persons who exhibit an idiosyncrasy towards asparagus and develop unpleasant symptoms after eating it, just as there are people who are poisoned by mutton or strawberries, but on the whole there is nothing to be said on physiological grounds against moderate indulgence in this very popular vegetable food.

THE CLEARING OF THE AIR.

FROM an interesting communication by Mr. A. G. R. Foulerton and Dr. A. M. Kellas, published in another column, it would appear that electrical discharges of high potential and rapid frequency are without direct effect upon micro-organisms but that indirectly these discharges destroy germs owing to the action of chemical substances formed as the result of electrical action on the atmosphere through which the discharge takes place. Amongst the products formed in the air on the passage of the discharge are nitrous and nitric acids and probably ozone and peroxide of hydrogen, all of which are powerful germicides, but more particularly so at the moment of their formation. It is well known that substances which in the free condition are comparatively inert are intensely active in the nascent state. In view of these results there seems to be little doubt that the occurrence of a thunderstorm must exert a powerful purifying influence on the air, even to the total destruction of organisms. It is often stated that a thunderstorm does good because it clears the air, but so far this statement has not received explanation in such precise scientific terms. Further, it would be interesting to determine whether the production in the nascent state of nitrous acid, ozone, or peroxide of hydrogen has anything to do with the "turning" of milk or the "hardening" of beer which frequently happens during the progress of a thunderstorm. The treatment of disease, as, for example, lupus, by "high-frequency" discharges may after all owe its success to the formation of these germicidal substances in the intensely active condition known as the nascent state, in which case the employment of "high-frequency" discharges would be merely a reversion to the antiseptic method but probably with more intense effect.

THE PATHOGENY OF DIABETES.

IN THE LANCET of May 5th, p. 1229, we published a paper on the above subject read before the International Congress of Medicine at Lisbon by Dr. F. W. Pavy. The researches of Dr. Pavy into the causation of diabetes are well known and consequently any further communication from him on the subject merits most careful attention. Various theories as to the pathogeny of diabetes have been expressed by competent observers from time to time but even now no unanimity of opinion can be said to exist. The kidney, the liver, and the pancreas have in turn been considered the organ in which the disease originated but most authorities now point to the nervous system as playing the most important rôle in the production of glycosuria. The exact manner in which its action is brought to bear, however, appears to be doubtful. Dr. Pavy adduces some powerful arguments in favour of the vaso-motor system supplying the chylopoietic viscera being mainly involved. He points out that it is in connexion with the neuropathic disposition that diabetes is most frequently found to exist and the more sensitive and highly strung the nerve organisation the more intense is the form that the disease assumes. He further remarks that a cerebral influence over the vaso-motor state is what is suggested as constituting the link between the brain and diabetes. But little is known at present of the physiology of the vaso-motor system of nerves through which cerebro-spinal influence upon vessels is exerted. Certain parts of the grey matter of the brain appear to be in touch with vascular areas and it is suggested that the nerve filaments of the sympathetic system are not only connected with the spinal cord and medulla oblongata but with spots at the surface of the brain which stand in the position of cerebral vaso motor centres. Upon these grounds Dr. Pavy considers that a chain of connexion becomes established, rendering it possible for diabetes to constitute a disease belonging to the neurosis class, the difference in its case being the implication of a particular area belonging to the vaso motor system instead of structures connected with voluntary motion, sensation, and the mind. Morat and Dufour, from their researches, maintained that sugar formation is a function of the liver cells, under the control of certain undetermined excito-secretory nerves which they considered distinct from the vaso-motor nerves. It may well be suggested that this nervous influence may be liberated by certain toxins and the pancreas may also have an influence upon this function. Doubtless other investigations will be made to corroborate or otherwise Dr. Pavy's conclusions but until such are concluded the pathogeny of diabetes must still remain in doubt, although his researches must be taken as being amongst the most important and suggestive yet published.

A PATIENT'S COMPLAINTS AS EVIDENCE.

ONE of the very few exceptions allowed by a court of law to the rule which rigidly excludes hearsay testimony as valid evidence is that exclamations and statements made by an injured or sick person concerning the symptoms from which he suffers may be admitted as evidence, for it is by the aid of such information that the medical adviser arrives at his diagnosis and is able to decide upon a line of treatment. Recently in the Supreme Court of Michigan there was an unsuccessful attempt to enlarge the scope of this exception. The victim of a railway accident called in the medical man who was permanently retained as the expert witness of the defendant railway company; to him she detailed her symptoms, notably certain localised pain and tenderness were alleged by her. The court held that to admit these statements as evidence would be a breach of the rule which forbids the production of hearsay testimony. The court suggested that even if the statements of the patient were admitted the possibility of malingering would have to be discussed fully. Apart from this phase, however, the court decided that it was the design of the plaintiff to make the communications for the purpose of enhancing her claim and that fact made them inadmissible for the reason that they were not the natural expressions of present sufferings but voluntary statements for an ulterior purpose and hence they were not within the above exception to the hearsay rule.

ANTE-PARTUM OPHTHALMIA.

IN the *Ophthalmoscope* for April Mr. Sydney Stephenson and Dr. Rosa Ford have published an important paper on a condition supposed to be extremely rare but which they think occurs more frequently than is supposed—ante-partum ophthalmia. By ante-partum ophthalmia they mean an inflammation of the conjunctiva produced in utero by infection with a microbe (generally the gonococcus), the incubation period of which has elapsed completely or partially before birth. They have found recorded 37 cases, to which they add 17 cases observed by themselves. These include seven cases in which the symptoms developed within 24 hours of birth—a time which they take for the present purpose as the minimum incubation period. The majority of cases of ophthalmia neonatorum occur on the third day after birth, which shows the duration of the incubation period. The text-book statement that the incubation period varies from a few hours to two or three days probably is due to inclusion of cases of ante-partum infection. The gonococcus appears to gain entrance to the conjunctival sac through membranes that have been ruptured some time before birth. Of 28 cases in which the time of rupture is mentioned the interval before birth was not less than 24 hours in 12 cases. But in 16 cases the interval between rupture of the membranes and the discovery of the ophthalmia was less than 24 hours. To explain these cases slight lateral tears of the membranes or infection through uninjured membranes must be assumed. A local factor is indicated in seven of the cases by the fact that one eye alone was affected at birth. In most of the cases the labours were normal. In 15 of the cases the gonococcus was found, in two the pneumococcus, and in one the bacillus coli. Many of the cases were at birth in the early stage of ophthalmia, but in two cases the disease had apparently run its course, leaving a damaged or shrunken eyeball. Perhaps in gonorrhœal metritis or endometritis gonococci pass through the chorion during early pregnancy when its vascular connexion with the uterus is marked. The hypothesis remains that the fœtal circulation may be infected in consequence of general gonococcic infection of the mother. Mr. Stephenson and Dr. Ford suggest that many congenital affections, such as staphyloma, corneal opacities, microphthalmos, lacrymal abscess, and vulvo-vaginitis, may be due to intra-uterine infection.

THE CARE OF THE SPONGE.

ONE of the most agreeable and convenient adjuncts concerned in preserving personal cleanliness is the sponge. Considering the extraordinary capacity of the sponge for holding water and the frequency of its use it is obvious that enormous quantities of water must in the course of time pass through its innumerable cells. For example, if a sponge which absorbs, say, a pint of water is alternately soaked and squeezed out a dozen times during a bath the amount of water that has entered into, and passed out of, the sponge at a single sitting, so to speak, would be 12 pints, so that during a year at this rate no less than 500 gallons of water would have traversed its cells. This estimate is not an exaggerated one and probably the sponges of most cleanly disposed persons are made to deal with a larger quantity than this. However that may be, it is obvious that the sponge must arrest the impurities of a water just as does a good filter and sooner or later slimy matter accumulates, the quantity and quality of which depend upon the character of the water-supply. The use of soap would, as a rule, increase the slime owing to the formation of insoluble curds of lime soap. The number of organisms and the amount of impurity in the water may be quite insignificant in relatively small volumes of the water, but when the accumulation caught in a sponge represents some hundreds of gallons of water the sponge may obviously teem with potentialities for evil. The bacteriology of water slime is of the greatest interest since it is this slime found on all the sand filter-beds which removes dangerous entities and thus protects a community from water-borne disease. The unclean sponge contains a similar slime which must prove a very prolific breeding-ground for micro-organisms. A consideration of such facts emphasises the desirability of keeping the domestic sponge absolutely clean and all doubt as to the presence of seeds of disease should be removed by thoroughly disinfecting the sponge at regular intervals. There is no better disinfectant for the purpose than sunlight and the sponges, after having been washed thoroughly in strong washing soda solution and rinsed in a weak solution of hydrochloric acid and finally in pure water, should be squeezed and hung up to dry in the sun's rays. This process also renovates the sponge in a most satisfactory manner. Amongst artificial disinfectants a weak solution of formaldehyde, or sulphurous acid, would appear to be suitable.

THE TREATMENT OF INOPERABLE SARCOMA WITH THE MIXED TOXINS OF ERYSIPELAS AND THE BACILLUS PRODIGIOSUS.

Dr. W. B. Coley has contributed to the *American Journal of the Medical Sciences* for March an important paper in which he gives the late results of the treatment of inoperable sarcoma with the mixed toxins of erysipelas and of the bacillus prodigiosus. It may be remembered that in 1891 he first described the treatment of inoperable sarcoma with repeated injections of the streptococcus of erysipelas. This treatment was suggested by a case of very malignant round-celled sarcoma of the neck, which recurred four times after operation. It finally so involved the deep tissues that operation was impossible. Soon after the last operation an attack of erysipelas occurred, which was followed by a relapse. The tumour disappeared and the patient was well seven years later. In a case of inoperable recurrent spindle-celled sarcoma of the tonsil and cervical glands Dr. Coley injected beneath the skin of the neck covering the tumour a culture of the streptococcus of erysipelas. A typical attack of erysipelas followed, the tumour broke down, and the outlying nodules disappeared. The patient recovered health but a hard fibrous mass remained in the tonsil which had lost its malignant character. He remained well for eight years and then succumbed to recurrence. Ten other cases (four cases of carcinoma and six of sarcoma) were treated in the same way but in six (including all the cases of carcinoma) repeated injections failed to produce erysipelas. In most of these slight improvement took place while repeated injections of the cultures were being given. In the four positive cases one patient remained well for eight years and then died from recurrence and another remained well for three and a half years and then died from metastases. The occurrence of two fatal cases caused Dr. Coley to abandon injections of the streptococcus of erysipelas for those of its toxins. To intensify their action he added the toxins of the bacillus prodigiosus. The value of his present paper lies in the fact that he is able to give his final results. He reports 36 cases in which the tumour disappeared under the treatment. These were as follows: round-celled sarcoma, 13; spindle-celled sarcoma, 16; mixed-celled sarcoma, two; epithelioma, one; chondro sarcoma, one; and three in which no microscopic examination was made. In ten of these cases the patients were well more than ten years later at the time of the report. In 26 cases the patients were well at periods varying from three to 13 years after treatment. In five cases fatal recurrence took place after the patient had remained well for periods varying from six months to three and a quarter years. These results would be remarkable in cases of primary operable sarcoma. But here the patients were beyond hope from operation. In carcinoma Dr. Coley finds that the toxins have a marked inhibitory action but that this is rarely curative. He has collected 60 cases of malignant disease treated by other surgeons with complete or partial success; 27 of the patients were alive and well at periods varying from three to 12 years after the treatment. These results certainly are remarkable but we think that it is a pity that Dr. Coley neglects to state what proportion the successful cases form of the total cases treated. However, he appears to justify his claim that this treatment should be a routine after all primary operations for sarcoma and carcinoma. As to the question of using the toxins before amputating in sarcoma of the extremities he has collected 12 cases, of which three are personal, in which this treatment rendered amputation unnecessary. In cases in which the sarcoma has become generalised by formation of metastases he was inclined to advise against the use of the toxins. But he has observed two successful cases and others have been reported, including one published by Mr. W. H. Battle. Dr. Coley claims that this treatment has one advantage over that by the x rays; he has seen rapid breaking down of the tumour under the latter followed by metastases, but he has never seen this result even in cases of the most rapid disappearance under the toxin treatment.

THE DECLINE OF THE MARRIAGE-RATE IN ENGLAND.

THE national and social importance of the recent marked and continuous decline in the English marriage-rate and birth-rate can scarcely be over-estimated. Two recent and valuable contributions to the *Journal of the Royal Statistical Society* conclusively demonstrated that the persistent decline in the birth-rate in England can only to a very slight extent be attributed to the decline in the marriage-rate. The recently issued annual report of the Registrar-General, dealing with the statistics for 1904, throws, however, new light upon the decline in the English marriage-rate during the past 30 years which is not devoid of public interest. The Registrar-General's annual reports, of which the one just issued is the sixty-seventh, have accustomed us to accept as the marriage-rate the number of persons married during a year in each 1000 of the population at all ages. Calculated in this manner, the marriage-rate in England and Wales declined, with slight fluctuations, from 16·7 per 1000 in the three years 1870–72 to 15·2 per 1000 in 1904, signifying a decline of 9 per cent. in the rate of marriage. In consequence, however, of the decline in the birth-rate the age constitution of the English population has been materially altered. For instance, during the last census decade (1891–1901) the number of persons aged under 15 years, increased by but 3·67 per cent., whereas the increase of persons aged upwards of 15 years was equal to 16·74 per cent. Mindful of this fact, the Registrar-General in his last report gives the proportion of persons married to 1000 of the unmarried and widowed population aged upwards of 15 years among whom the marriages actually occur. Calculated in this manner, we are told that the marriage-rate declined from 57·2 per 1000 in the three years 1870–72 to 46·5 in 1904; this shows that the true decline in the marriage-rate of the unmarried and widowed aged over 15 years was 19 per cent. instead of 9 per cent., based on the crude rate calculated upon the entire population at all ages. Census returns show the result of this decline in the marriage-rate, for whereas in 1871 the proportion of the married in the English population aged upwards of 15 years was 54·0 per cent., the percentage of the married declined to 53·4 in 1881, to 51·9 in 1891, and to 51·5 in 1901. This decline in the marriage-rate, which was most marked during the ten years 1871–81, appears to have been very general throughout England and Wales; the only counties which showed an increased marriage-rate between 1871 and 1904 being the metropolitan portions of Middlesex and Surrey and Essex, mainly due to the migration of London residents to the suburban districts beyond the metropolitan area. The largest decline in the marriage-rate during this period was 29 per cent. in Lancashire, 28 per cent. in Staffordshire and in the East Riding of Yorkshire, and 26 per cent. in Worcestershire and in the West Riding of Yorkshire. Speaking generally, this decline of marriage was far more marked in the urban than in the rural counties. For instance, it was less than 5 per cent. in Hertfordshire, Wiltshire, Herefordshire, Pembrokeshire, and Montgomeryshire, and the rate was stationary in Anglesey. This decline has, moreover, affected the marriages of bachelors and widowers and of spinsters and widows, although to a varying extent. During the period under notice (1871–1904) the decline in the marriage-rate of bachelors (aged upwards of 15 years) declined 14·4 per cent., while the decline in the marriage-rate of widowers was no less than 42·2 per cent. Similarly, while the decline in the marriage-rate of spinsters in this period did not exceed 19·3 per cent. that of widows was equal to 40·8 per cent. The Registrar-General calls attention to the interesting fact that in spite of the recent marked decline in the rate of remarriage among widowers and widows their proportions in the male and female English population respectively show a decline. Of 1000 males over 15 years of age enumerated in England and Wales in 1871 57·3 were widowers, while the proportion had declined to 52·6 per 1000 at the last census in 1901; and of 1000 females of similar ages the number returned as widows had declined from 116·3 in 1871 to 108·2 in 1901. It may further be noted that this decline in the proportion of widowers and widows in the English population is confined to the age-period 15–35 years, the numbers of widowers and widows above the age of 35 years having relatively increased during the period under notice. It seems, therefore, probable that the declining marriage-rate of widowers and widows in recent years should not be entirely attributed to their decreasing tendency to remarriage but may be partly due to increased duration of life and to a consequent decrease in the proportion of persons widowed at the younger ages. The expectation of remarriage obviously decreases with the increased age of the widower and widow. Concurrently with the general decline in the marriage-rate it is satisfactory to note a marked decline in the proportion of marriages of minors, although of those married in 1904 in England and Wales 46 per 1000 of the husbands and 153 per 1000 of the wives were under the age of 21 years. Compared, however, with the proportions that prevailed 30 years ago, the number of bridegrooms and of brides under age showed respectively a decrease of 41·4 and 29·6 per cent. While the general decline in the English marriage-rate suggests grave doubts of social well-being, the decrease in the proportion of marriages of minors must be viewed with satisfaction.

A SUGGESTION TO MEDICAL OFFICERS OF HEALTH.

IN a letter published in THE LANCET of May 12th, p. 1348, Mr. S. Constable calls attention to the continual anxiety caused to many medical practitioners by the dirty and ignorant women whom they so often encounter in their midwifery practice playing the rôle of nurse. He makes the suggestion that medical officers of health should induce their parochial councils to get someone to give free simple lectures to these women on the essentials of monthly nursing. There can be no question but that some such scheme would be of the greatest benefit to the poor. Only too often the women have to intrust themselves after their confinements to the tender mercies of some kindly neighbour anxious to do what she can but with little knowledge or to some so-called nurse quite untrained who is only too often a grave source of danger to her patients. No doubt a very beneficial effect will be exercised upon these women by the spread of better training amongst the midwives of the country. When they see the amount of care taken by the latter they will realise the great importance to their patients of cleanliness and the use of antiseptics. In the meantime, something is being done by the councils to teach the elementary facts of sick nursing in their schools, and some authorities at any rate have already at hand possible teachers and lecturers in the persons of the women inspectors of midwives. District nurses, too, in rural districts might well be called upon to spend some of their time in training the women who practise as nurses in their neighbourhoods. No doubt in time we shall see marked improvement in this respect and indirectly we may expect much good to result both in this and in other forms of nursing amongst the poor from the operation of the Midwives Act.

THE SERUM TREATMENT OF DYSENTERY.

AT a meeting of the Académie de Médecine of Paris on Feb. 20th Professor C. Dopter and M. L. Vaillard communicated an important paper on the Serum Treatment of Dysentery. They pointed out that dysentery was not the name of a disease but of a number of diseases, of which two principal forms—bacillary and amœbic—are recognised. It is only with the bacillary or epidemic form of the disease that their communication deals. They have previously proved by experiments[1] the specificity of the bacillus of dysentery, confirming the work of Chantemesse and Widal, Kruse and Flexner, and the Japanese bacteriologist Shiga. The subcutaneous inoculation of the dog or the rabbit with the bacillus produces typical and fatal dysentery. In these animals, as in man, the infection becomes localised in the intestinal mucosa and its lymphatic glands. The toxin of the bacillus produces the same effects, local and general, as the organism itself. When injected subcutaneously it shows an elective affinity for the intestinal mucosa, especially that of the large intestine, and produces the characteristic lesions of dysentery. The toxin has also an action on the nervous system which is shown by paralyses and terminal hypothermia. Shiga was the first to produce an antidysenteric serum. He immunised animals against dysentery and showed that their serum could prevent and cure experimental infection of the mouse and the guinea-pig. In man his serum reduced the mortality of the disease by more than two-thirds and almost immediately relieved the symptoms. In Germany Kruse prepared a similar serum but his results were not so good. Both Shiga and Kruse used cultures of the bacillus, living or dead, to immunise animals. They ignored the existence of a soluble toxin. The serum thus prepared possessed bactericidal but not perceptible antitoxic properties. In 1903 Charles Todd showed that the bacillus of dysentery secretes toxin, the repeated injection of which into the horse gives to its serum antitoxic properties.[2] In 1904 at Moscow Rosenthal immunised horses by means of living cultures and the soluble toxin and obtained a bactericidal and antitoxic serum, the use of which reduced the mortality of the disease from one varying between 12 and 17·5 to 4·5 per cent. At the Institut Pasteur since 1903 Dopter and Vaillard have immunised horses by the weekly and alternate inoculation of increasing doses of the living bacilli and the soluble toxin. The injections are first given subcutaneously and then intravenously. The serum of these horses has immunising properties against both the bacillus and its toxin. Subcutaneous injection of from 0·05 to 0 25 of a cubic centimetre at the time of experimental infection with a fatal dose, or several days beforehand, protects rabbits. The immunity lasts from eight to ten days; then it rapidly disappears From one to two cubic centimetres of the serum injected 24 hours after infection insures recovery. But when the injection is delayed 48 hours recovery is doubtful; by intravenous injection better results are then obtained. In man similar results were observed. Of 96 patients suffering from dysentery and treated by subcutaneous injection of the serum, many of whom had the disease in a severe form (from 30 to 288 stools daily), only one died. In the milder cases (from 15 to 30 stools daily) an injection of 20 cubic centimetres of the serum during the first five days immediately relieved the symptoms and proved curative in two or three days. The improvement was not so sudden or so great when the dysentery had lasted longer—from eight to 15 days. However, it was definite; blood no longer exuded from the intestine but the colic persisted, and the stools, though diminished in number, still remained frequent (from eight to 15 in the 24 hours). If another injection was given on the next day, and perhaps still another on the day following, recovery rapidly took place (in from three to five days). In the severe cases the action of the serum was even more marked. In cases treated early an injection of 20 or, better, of 30 cubic centimetres brought about recovery in three or four days. Sometimes a second injection on the following day was necessary and even a third or fourth injection was sometimes required. In very severe cases the dose was increased to from 40 to 60 cubic centimetres and in certain cases even to 80, 90, and 100 cubic centimetres. If the improvement was not thought sufficient the injections were repeated on the following days in increasing doses In one case they were given for 17 days and in all 1080 cubic centimetres were injected. Even in the largest doses the serum is innocuous.

ST. BARTHOLOMEW'S HOSPITAL VIEW DAY.

VIEW DAY at St. Bartholomew's Hospital was held on May 9th and the day was one of special interest in that the new buildings of the out-patient and special department block were far enough advanced for inspection. The evening entertainment was devoted to a very charming programme of ancient dances and music presented by Miss Nellie Chaplin. Every dance was introduced with a short description by Mr. F. Cunningham Woods. The primitive dance was probably always accompanied by words or perhaps we should say that the primitive song was accompanied by dancing. The vocal dance has now, however, almost disappeared, the chief survival being the solemn ceremony which is sung and danced before the high altar at Seville on the feasts of the Assumption and of Corpus Christi. Other survivals are to be found in children's singing games, a number of which have been collected by Miss Gomme. The Elizabethan ballet or Fa La is still in high favour with madrigal societies as a musical composition but it is never danced, two well-known instances being Morley's "Sing We and Chaunt It" and "Now is the Month of Maying." Miss Chaplin's entertainment did not contain an example of the Elizabethan ballet but the programme included, amongst others, examples of the pavane, the galliard, the chaconne, the passepied, the saraband, the gavotte, and the minuet, besides an Irish jig. The whole entertainment was thoroughly artistic and it is satisfactory to state that the fund for the pathological block in aid of which the entertainment was organised benefited by the sum of over 120 guineas.

A NEW METHOD OF DRESSING WOUNDS BY MEANS OF BENZOL.

M. E. Crouzel, in the *Répertoire de Pharmacie* of March 10th, p. 101, suggests a new method of dressing wounds by means of benzol. In his opinion the problem of maintaining a wound in an aseptic condition has hitherto been attacked along the wrong lines. His method is based upon the removal of pus which is of a fatty nature and serves to fix the other products of suppuration and set up complications by the accumulation of the various products

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stitut Pasteur, July, 1903.

r, Dec. 5th, 1903, p 1456.

of decomposition and excretion on the surface of the wound. Pure benzol is selected as a suitable solvent as it is non-toxic while it possesses well-marked antiseptic properties. It is one of the best solvents of fat and when applied to a wound by means of a sponge of cotton-wool or gauze it readily removes all morbid products, including pus, epithelial scales, fleshy débris, and blood. At the same time, owing to the rapidity with which it evaporates, it promotes a pleasant sense of coolness on the parts to which it is applied. The characteristic odour of benzol may be masked by the addition of 2 or 3 per cent. of nitrobenzene or guaiacol. M. Crouzel suggests that the employment of benzol in surgical practice might be extended to the outward application of many medicinal substances, including camphor, quinine, morphine, strychnine, iodine, sulphur, and phosphorus. A solution of paraffin or guttapercha in benzol affords an impermeable dressing for wounds of wide applicability. For some purposes benzol might with advantage be dissolved in alcohol or in ether. As an anæsthetic application to painful wounds and to abscesses requiring incision a solution of menthol in benzol is efficacious. Instruments dipped in a 5 per cent. solution of vaseline in benzol do not rust. The cheapness of benzol is another point in its favour, especially in hospital practice, as it can be used in many cases in place of alcohol. But it is necessary to exercise care to protect the vapour from naked lights as benzol is highly inflammable.

THE CAMPBELL POPE MEMORIAL FUND.

An appeal to the medical profession is being made in order to render some tribute to the memory of the late Dr. Campbell Pope, who practised for many years in the neighbourhood of Shepherd's Bush and who commanded in so many directions the respect and affection of his medical *confrères*. The following circular has been issued by an influential committee and so clearly does it put the case that we do not attempt to add a word to its arguments.

The sudden death of the late Dr. Campbell Pope of Shepherd's Bush, on Jan. 2nd, came as a great shock to his many friends and elicited widespread sympathy with his widow and family of two sons and four daughters. For 30 years Dr. Pope had practised in Shepherd's Bush and besides endearing himself to a wide circle of patients and friends he had devoted no small share of his too busy life to public duties in connexion with his profession, serving as a vice-president, and formerly for some years as honorary secretary, of the Medical Defence Union, as chairman of the Kensington division of the British Medical Association, and as honorary secretary, vice president, and subsequently president of the West London Medico-Chirurgical Society. It was felt by some of Dr. Pope's intimate friends that his high personal character and life of public usefulness warrant some special tribute to his memory and when it became known that, owing to his heavy professional expenses and the education of his children, the widow and family had been left very inadequately provided for, his friends felt impelled to take steps to raise a memorial fund which might be devoted to supplementing the very limited resources of his family, and more especially to assist in completing the education of the children. In this connexion it may be mentioned that his oldest son is completing his curriculum of medical study at St. Mary's Hospital and that for examination fees and other expenses a substantial sum will be required before he can obtain his medical qualifications.

The names of the committee who have signed this circular note are as follows:—

Chairman: Dr. Frederick T. Roberts Treasurers: Dr. H. A. Caley, 24, Upper Berkeley-street, W.; Mr. C. R. B. Keetley, 56, Grosvenor-street, W.; and Mr. J. F. Long, London and County Bank, Hammersmith, W. Honorary Secretary: Mrs Brandon, "Oakbrook," Ravenscourt Park, W. Members: Mr. T. Gunton Alderton, Dr. A. G. Bateman, Mr. L. A. Bidwell, Sir William Bull, M P, Mr. A. St. Clair Buxton, Rev. W. Dunckley, Right Honourable Sir Walter Foster, M.P., Dr. W. S. A. Griffith, Sir Victor A. H. Horsley, Rev. S. K. Lockyear, Mr. A. W. Valsey, and Dr. James Wilson.

Donations or, if preferred, subscriptions over a term of years will be gratefully received by the honorary treasurers or by the honorary secretary. We shall announce in The Lancet the names of all donors.

THE SEISMOMETER IN ITALY.

Shortly after 5 A.M. on April 18th the first shocks of earthquake were felt in San Francisco, and at 2.25 P.M. of that day the Director of the Osservatorio Ximeniano in Florence (the Padre Alfani) announced that "the seismic apparatus had begun to register a perturbation due to a very violent earthquake. The first calculations indicate the shocks as about 9900 kilometres distant from the Observatory. The violence of these was such that many of our instruments have been put out of gear." Up to 6 P.M. the apparatus continued to register the passage of seismic waves; but at that hour (according to the Padre Alfani) it was still impossible to fix the scene of the telluric storm. A little later, at the office of the *Nazione* and other newspapers of Central Italy, arrived the first brief telegrams announcing the terrible calamity that had befallen San Francisco. The above coincidences are worth noting, as indicative of the advance achieved in seismometry since the first attempts of Babbage down to the instrument constructed some 20 years ago by Grey and Milne working on the lines of Ewing. Prior to these the Italians claim for Count Michele di Rossi of the observatory under Rocca di Papa in the Agro Romano the invention of a yet more delicate and efficient apparatus which registered the telluric tremors preceding the frightful earthquake at Casamicciola in the Bay of Naples in the July of 1883. On the strength of these indications it is well known Count Michele di Rossi issued his urgent warning to the hotel keepers at Casamicciola and other balneary resorts in the Island of Ischia; but—the season being then at its height and the "albergatori" reaping a richer harvest than usual—his message was ignored. Italian observatories, notably those at Florence and Padua, are by this time more perfectly equipped than that of Count Michele di Rossi, and, coöperating as they all are with increased energy and ampler subsidies, a still further advance may be expected from them worthy of the land of Galileo and Torricelli, of Galvani, Volta, and Marconi.

THE SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

We published last week a brief account of the annual meeting of this excellent society and we now take occasion to call the attention of our readers to its work and record. The society was founded in 1788, being the third of its kind to be founded in England, and is now one of the richest, if not the richest, in the country, the invested funds amounting to £98,810.

Any person duly registered under the Medical Act and resident within a radius of 20 miles from Charing Cross shall be qualified to be proposed for election as a member of the society. That the whole of any township or parish to which the 20 mile radius may reach shall be considered as entirely within the said radius.

The annual subscription is two guineas, payable either in one sum or in two half-yearly amounts of one guinea each. After paying for 25 years members become life members and are exempted from further contributions.

Every member whose age at the time of his election shall not exceed 30 years may become a life member upon payment of the sum of 20 guineas; if his age shall exceed 30 and shall not exceed 40 years, upon payment of the sum of 25 guineas; and if his age shall exceed 40 years, upon payment of the sum of 30 guineas; provided that such payment be made within three months from the date of his election.

Relief is granted only to the widows and orphans of deceased members. The advantages of the society cannot be too strongly or constantly urged upon the members of the medical profession, for at each quarterly court of directors relief has to be refused to many applicants simply owing to the fact that their husbands had not been members of the society. Some remarkable instances may here be quoted showing the advantages derived by the widows and orphans of deceased members. One widow, whose husband had paid £18 18*s.* in subscriptions, received in grants for herself and family the sum of £2272; another received £1654; three widows, whose deaths were reported at the last quarterly court, received an average of £700 each. At the present time a widow is in receipt of a grant of £125 per annum for herself and five children. The above are could be quoted. Full particulars of the society and proposal forms for membership can be obtained on application to the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the municipal council chamber, Telverton-road, Bournemouth, on Saturday, May 26th, at 11 A.M., when a discussion will take place on sanitary administration in a health resort. The discussion will be opened by Mr. P. W. G. Nunn, medical officer of health of Bournemouth, from whom tickets for admission to the meeting may be had.

THE *London Gazette* officially announces that Lieutenant-Colonel Havelock H. R. Charles, I.M.S. (Bengal), surgeon of the staff of the Prince of Wales during the visit of their Royal Highnesses the Prince and Princess of Wales to India, has been made a Knight Commander of the Royal Victorian Order. Fleet Surgeon Robert Hill, R.N., of H.M.S. *Renown*, has been made a Member of the Fourth Class of the same Order.

BY permission of Mrs. William E Scott a drawing-room meeting will be held to-day, Friday, May 18th, at 3 P.M., at 11, Kensington-court, London, W., in aid of the Infants' Hospital. Mr. Benjamin Broadbent (mayor of Huddersfield) will preside. Mr. J. S. Fletcher, M.P., and Dr. C. W. Saleeby are expected to speak.

IN accordance with the Medical Act (1886) Amendment Act of 1905 the province of Nova Scotia has been recognised as affording under local legislature proper privileges to registered medical practitioners. The province has therefore been declared by the King in Council to be one to which the second part of the Medical Act (1886) now applies.

THE Association of British Postal Medical Officers will hold its annual banquet in the Whitehall Rooms, Hôtel Métropole, London, upon Wednesday, July 11th, at 7 for 7.30 P.M., "to meet the Right Hon. Sydney Buxton, M.P., His Majesty's Postmaster-General."

THE ceremony of laying the foundation-stone of the South London Institute for the Blind, Borough-road, Southwark, will take place on Thursday, May 24th, at 2.45 P.M. The stone will be laid by the Duke of Argyll.

THE Corporation of McGill University, Montreal, has unanimously resolved to confer the honorary degree of LL.D. on Dr. Donald MacAlister, President of the General Medical Council of the United Kingdom.

Baron Takaki, F.R.C.S., the late Director-General of the Medical Department of the Imperial Japanese Navy, has had conferred upon him by the University of Durham the degree of D.C.L.

THE annual meeting of the Children's Country Holidays Fund will be held at the Hotel Métropole, Whitehall-place, London, on Monday, May 21st, at 3 45 P.M.

CREMATION SOCIETY OF ENGLAND.—The report of the council of the Cremation Society of England for the year 1905 shows that during the 12 months under notice 95 cremations were carried out at Woking as compared with 138 in 1904. This considerable falling off is probably due in some measure to the increased number of crematoria in the country and the growing influence of Golder's Green. The council is contemplating greater activity in making the advantage emation more widely known by advertising in various The total number of cremations that have taken place at Woking to the end of 1905 is 2748.

SIXTY-SEVENTH ANNUAL REPORT (FOR 1904) OF THE REGISTRAR-GENERAL.

II.[1]

IN resuming consideration of this report we notice that considerable attention is devoted to the prevalance and fatality of tuberculosis and cancer—two diseases possessing in common these characters, first, that they are responsible for a large share of the total mortality in this country and, secondly, that they seriously impair the working capacity of the survivors from attack by these diseases respectively. The importance of tuberculosis as a factor in English mortality appears from the statement in the report that it accounts normally for at least 11 per cent. of the mortality from all causes. Out of every ten deaths from tuberculosis about seven are due to the pulmonary variety of that infection. Although, as compared with the average, pulmonary tuberculosis showed decreased fatality in the year 1904, yet even now it is responsible for between 1200 and 1300 deaths annually in each 1,000,000 of the population. This disease for the most part pursues a somewhat lingering course, the duration of illness in fatal cases being roughly estimated at about two years, and during a large part of this period the sufferer is seriously handicapped by increasing debility in his struggles to provide sustenance for his family and himself. Statistics show that, speaking generally, pulmonary tuberculosis is about half as fatal again to males as it is to females, the difference being more pronounced in the town than in the country. Disregarding counties of less than 100,000 inhabitants, we learn that among males pulmonary tuberculosis was least fatal in Monmouthshire, where the rate of mortality was 829 per 1,000,000, in Lincolnshire 881, and in Buckinghamshire 890 per 1,000,000. Among other counties the rate rose to 1618 in Carmarthenshire, 1622 in Northumberland, 1642 in Warwickshire, 1694 in Lancashire, and 1720 in Hampshire, whilst in London it amounted to 2106 per 1,000,000. Among females, whilst the rate did not exceed 750 per 1,000,000 in Oxfordshire, 780 in Worcestershire, and 783 in Staffordshire, it rose to 1166 in Durham, 1194 in Denbighshire, 1205 in Glamorganshire, 1316 in Northumberland, 1665 in Carmarthenshire, and 1819 in Carnarvonshire. It is noteworthy, however, that in the metropolis females do not resemble males in suffering exceptional fatality from this disease.

If the rates in the year 1904 be compared with the average in the preceding five years the following facts will be observed. 1. That in the country generally the mortality from pulmonary tuberculosis was below the average, except among males under the age of 15 years and among females at from 10 to 15 and at from 55 to 65 years. 2. That in the urban districts males under 20 years and from 55 to 65 years succumbed to this disease more readily than the average, the same being true of females at ages from 10 to 15 and from 45 to 65. 3. That in the rural districts males suffered more severely than the average at ages from 25 to 35 years, and from 45 to 65, and females more severely at ages from 5 to 10, from 15 to 20, from 25 to 35, and from 55 to 65 years. Except at the age from 15 to 35 in males and at the age from 10 to 35 in females, pulmonary tuberculosis appears to be more fatal in the town than in the country. The age of maximum fatality from this malady is now, and for several years past has been, as follows: in England and Wales generally and in the urban districts from 45 to 55 for men and from 35 to 45 for women; in the rural districts it is from 25 to 35 for both sexes.

From a table in the report we learn that of the eight European countries which furnish returns for publication in the Registrar-General's reports, in all except Italy the average mortality from pulmonary tuberculosis exceeded that of England and Wales. In Ireland the mortality was excessive and in Scotland it was higher than it should be. In New Zealand and in all the States of the Australian Commonwealth, except Victoria, it was considerably below the English rate. The death-rate in the Austrian empire, in Servia, and in Ireland is abnormally high and shows no tendency to decrease. On the other hand, in England, Wales, and Scotland and in five European countries—viz., Germany, the Netherlands, Belgium, Norway, and Italy—a diminution in the death-rate from pulmonary tuberculosis has taken place in recent years.

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[1] Previous notices of this report will be found in THE LANCET of April 21st (p 1120) and May 5th (p 1254), 1906.

Although among adults pulmonary tuberculosis is the most frequent form of this infection, the report shows that among children tuberculous meningitis and tuberculous peritonitis are the forms that destroy the largest proportion of lives. The mortality from tuberculous meningitis appears to be decreasing; nevertheless, the disease destroys annually 125 boys and 104 girls in every 100,000 living of each sex at ages *under five years, a large proportion of these deaths* occurring within the first year of life. Tuberculous peritonitis is another member of this group which accounts for a large proportion of the mortality among young children, more than three-quarters of the deaths from this disease occurring in children of less than five years old. It is difficult to determine the actual mortality from this condition, partly because of want of uniformity in phraseology and partly because of exceptional difficulty of diagnosis in cases where, as is generally the case, necropsies are unobtainable. The indefinite and very objectionable term tabes mesenterica is still used by many practitioners to denote the present disease, although Dr. Tatham has ascertained that the use of this term has been long since abandoned by the medical staffs of the principal London hospitals. The mortality from tuberculous peritonitis is about the same as that from tuberculous meningitis; the former disease is, however, more destructive than the latter in the earlier months of life.

Unfortunately, no reduction can as yet be recorded in the steadily increasing fatality of cancer which has characterised the returns for many years past, the one hopeful sign at present discernible being that in the year 1904 there was no acceleration of the rate of increase of cancer mortality as compared with the average in recent previous years. The deaths from malignant disease in the year under notice were nearly 30,000 in number and exceeded the average number in the previous ten years corrected for increase of population. Among males the increase was equal to 13 per cent., against 6 per cent. among females. An idea of the suffering entailed by the prevalence of this terrible disease may be gathered from the fact that in the four years 1901–04 more than 5 per cent. of the deaths from all causes have resulted from it. The report shows the mortality from cancer in that section of the population which is almost exclusively liable to that disease, the rate being given for men and women separately at ages above 35 years; the fatal cases at earlier ages are also recorded but these are relatively few in number. After due correction for differences in age constitution of the population cancer is found to be more fatal in the town than in the country, although in the absence of such correction the country districts would appear to be the greatest sufferers. In this connexion Dr. Tatham draws attention to the impracticability in many cases of distributing to their former places of residence the deaths of cancer patients occurring in urban hospitals; he further remarks on the fallacy of assuming that the residence of a patient immediately before death had been also the place of origin of the fatal disease. The mortality from cancer is considerably higher in women than in men, the rate being 2970 per 1,000,000 annually in the former sex and 2271 per 1,000,000 in the latter. In both sexes the increase of cancer fatality has been greatest at the more advanced ages; it is also greater in the urban than in the rural districts.

Among the limited number of foreign countries furnishing returns the average death-rate from cancer exceeded that of England and Wales in three only—Switzerland, the Netherlands, and Norway. In the German and Austrian empires, in Italy, and in Servia the mortality rates were below that of this country. This was also the case in Ireland, New Zealand, the Australian colonies, Ceylon, and *Jamaica*. In all these countries except Ceylon, Tasmania, and Jamaica the proportional mortality from cancer has shown in recent years a tendency to increase.

In dealing with infantile mortality Dr. Tatham remarks that the subject of infant life preservation has in recent years achieved in the public mind a degree of importance that had never previously been attained since the establishment of civil registration in this country. Nevertheless, the loss of life in infancy is still enormous. According to the report it appears that nearly half the children dying under one year perish within three months of their birth, whilst of survivors in the second year of life there die more than twice as many as in any one of the three succeeding years. As children grow older their mortality declines. In the year 1904 the mortality from all causes in infants under one year was equal to 145 per 1000 births. In both sexes infantile mortality was about one-third higher in the urban districts than in the rural.

As in previous years, so in 1904 the loss of life among infants is mainly due to diarrhœal diseases, wasting diseases, convulsions, and diseases of the respiratory system. With few exceptions those countries in which a high birth-rate prevails are conspicuous for a high rate of mortality among *infants; nevertheless, as in the* case of France, a high rate of infantile mortality is sometimes coincident with a low birth-rate. Taking as a criterion the mortality in England and Wales it appears from the report that in seven European countries and in Ceylon, Jamaica, and Chili the rate of infantile mortality ranged from 3 to 117 per cent. above the English rate. In Japan it was nearly equal to, while in New Zealand, in Australia, in Scotland, in Ireland, and in six other European countries it was from 1 to 47 per cent. below, the English rate.

ASYLUM REPORTS.

Inverness District Asylum (Report for the year 1905).—The average number daily resident at this institution during the year ending May, 1905, was 654. The admissions numbered 140 and the discharges 96, of whom 79 had recovered, giving the high rate of 56·4 per cent. of the admissions, as compared with 43·8 per cent. for the previous year. The average recovery-rate for the Royal and district asylums of Scotland was 33 per cent. for 1904. The deaths numbered 52, which gives the low rate of 7·9 per cent. of the average number resident. This asylum receives patients from various counties in the Highlands, such as Inverness, Ross and Cromarty, and Sutherland. The medical superintendent, Dr. Robert B. Campbell, observes that many cases, from the northern districts more especially, are *admitted* in a hopeless condition, having been kept at home too long. The isolated position of many of the parishes, no doubt, accounts partly for the delay referred to, but the same tendency to keep cases at home as long as possible is noticeable in Wales as compared with England, and probably connotes a marked trait in the Celtic character. Amongst the cases admitted we note six over 70 years of age, whilst one old woman was over 90. 72 of the 140 admissions were considered hopeful in respect of recovery. As regards *causation*, 31 per cent. of the admissions showed "marked hereditary predisposition" to insanity, a low proportion in comparison with many other asylums, particularly when the district from which this asylum draws its inmates is considered. Alcoholic excess accounted for only 4 per cent. of the admissions. Amongst the discharges were 15 unrecovered cases who were allowed out under the supervision of their relatives or other guardians. Such patients are freely discharged from this asylum, whereby overcrowding is avoided. Dr. Campbell finds the crofters *willing* to receive these cases. This, of course, is the Scotch system of boarding out which has proved so advantageous. Of the deaths, 19 per cent. were due to pulmonary tuberculosis. The reports of two visits made by the Commissioners in Lunacy during the year are appended to the asylum report and these testify to the good work which is being done by the institution.

THE NATIONAL HOSPITAL FOR PARALYSIS AND *EPILEPSY, QUEEN-SQUARE.*—A Male Nurses' Association has been formed in connexion with this hospital, the membership of which is confined to male nurses who have been fully trained at the hospital. Masseurs are also sent out by the association who in all circumstances work under the direction of a medical man.

VACCINATION GRANTS.—Mr. J. D. Staple, public vaccinator for the Ashley district of the Bristol union, has been awarded the Local Government Board grant for successful vaccination for the sixth consecutive time.—Mr. A. G. B. Lory, public vaccinator for the Chudleigh district of the Newton Abbot union, has been awarded for the third time in succession by the Local Government Board the special grant for successful vaccination.

TESTS OF CERTAIN OPEN DOMESTIC GRATES.

[THIS REPORT IS SUPPLIED BY THE COAL SMOKE ABATEMENT SOCIETY.]

THE two series of tests which had in former years been carried out by the Coal Smoke Abatement Society, the details of which were published in THE LANCET of May 10th, 1902 (p. 1342), and Feb. 20th, 1904 (p. 529), respectively, created such interest both in the trades concerned and amongst the public that the society was anxious to secure an opportunity to carry out further tests on a more extensive scale. In the autumn of 1905 this opportunity arose through the kind initiative of Sir Henry Tanner, chief architect to H.M. Government. The large block of buildings situated at the corner of Great George-street and Parliament-street, Westminster, in course of construction under his superintendence, suggested the possibility of a further series of tests being carried out and he placed himself in communication with the Coal Smoke Abatement Society. As a result a subcommittee of the society, consisting of Dr. H. A. Des Vœux and Mr. W. H. Atkin Berry, F.R.I.B.A., the latter nominated as a member of the society by the Royal Institute of British Architects, was appointed to act in conjunction with Sir Henry Tanner in conducting the tests, and at a meeting of these gentlemen held in July, 1905, the following rules for the tests were drawn up:—

Regulations and Conditions to be observed by Manufacturers and others submitting Open Grates for Testing at the New Public Offices, Westminster, under the Control of the Commissioners of His Majesty's Works and the Coal Smoke Abatement Society.

1. The tests are intended to take place in October next and the grates should be delivered *free* not later than the 9th of that month, and owners will be advised when they are to send workmen to fix them in the fireplace openings appropriated to their several grates. The owners shall bear the expense of fixing and removing the grates.

2. The grates are to have a fire width not exceeding 20 inches across the front. The tests will be made with ordinary bituminous coal. The cost of fuel together with all other expenses attending the tests will be defrayed by the Commissioners.

3. Separate tests under similar conditions to the foregoing will also be made of grates suitable for anthracite coal and also of gas fires

4. It is intended as far as may be practicable to conduct the whole of the tests at one time and on one floor, and in rooms of nearly equal dimensions.

5. No owners of grates, nor any representatives, will be permitted to attend the tests. Owners may make suggestions in regard to their own grates, but the examiners may use their discretion as to adopting such suggestions.

6 The points to be ascertained by these trials are (1) prevention of smoke; (2) heating power; (3) economy of fuel; and (4) suitability for office and household purposes

7. The report of the examiners must be accepted by the exhibitors; and the Commissioners and the Society, or either of them, shall be at liberty to publish the results at which they arrive.

8. Tests will be made only upon the foregoing terms and conditions, and submission for testing will be taken as acceptance of such terms and conditions by the owners of grates submitted.

H.M. Office of Works, Westminster, S.W., September, 1905.

Announcements of the proposed tests were forwarded, together with copies of the rules, to as many manufacturers of grates as were known to the Coal Smoke Abatement Society and invitations to manufacturers generally to submit grates for testing were issued by advertisement in trade and other journals. As a result, by the month of October, between 40 and 50 grates were submitted, and after preliminary inspection by Sir Henry Tanner and the members of the subcommittee, and the elimination of such as were judged unsuitable and of others which were practically duplicates of selected grates, 24 were chosen and afterwards fixed in the appointed rooms for testing.

Description of rooms.—The rooms were situated round an open square court at the south end of the new public buildings, all being on the mezzanine floor and averaging, as near as possible, 4000 cubic feet in size, thus affording favourable conditions for testing which would otherwise not easily be obtainable. The chimney flues were all of the same length and size—viz., 68 feet high and 11 inches in diameter. Each room had one window, which was kept closed, and one door, the latter being opened only for the purpose of the necessary ingress and egress in attending to, and watching, the grates. The doors and windows in all rooms were of the same size respectively. There was no furniture in the rooms, the walls were of brick left rough and unplastered, and the floors and ceilings were of rough concrete, no floor-boards being yet in position.

Dates of Tests.—The tests were conducted during the four days, Dec. 4th, 5th, 6th, and 7th, 1905.

Staff employed.—Mr. H. C. Burnand was chosen to superintend the staff and his duties were those of general supervisor—viz., to see that the fires were properly lighted and stoked, the temperatures correctly recorded, and the smoke charts properly filled in. Under him were eight assistants. Three (Smith, Fountain, and Andrews) attended to the weighing of the coal and wood, stoking the fires, and also recording the temperatures; and five (White, Bax, Moir, Dorrington, and Hudson) were appointed to register the smoke. Of these, four were stationed on the roof in separate shelters, each shelter being in clear view of the six chimneys which were allotted to each observer. The fifth assistant acted as relief when temporary release was required by one of the others.

Method of conducting the tests.—The grates were indicated only by distinctive numbers and the chimneys by distinctive letters of the alphabet painted on each flue pot. The names of the grates were unknown to the testers. The allotment of chimneys for observation by each of the smoke recorders was changed on each of the four days—the observers thus having a different set of chimneys every day. The fires were prepared first with a layer of chips, then of wood, and then of coal. The coal was weighed out and brought in carefully constructed trays, with two divisions, each division holding five pounds of coal. The fires were prepared each morning before 8 o'clock, at which hour they were lighted and were regulated throughout the day with the object of attaining and maintaining a temperature of 60° F. in the room or as near that as possible. The temperatures were recorded every half hour, one thermometer being placed in the corridor outside the rooms, and two in each of the rooms. Of the latter one was fixed at a distance of five feet in front of the fire and three feet above the floor and the other on the wall approximately 15 feet from the fire. The smoke emitted was registered according to the scale devised by the late Bryan Donkin and was carefully recorded on charts at regular intervals of five minutes throughout the hours of testing, a separate chart being used for each flue. At 4 P.M.—i.e., after eight hours—the fires were drawn and when cold the cinders were separated from the ashes and weighed, and the weight of cinders of each grate was recorded and was subtracted from the weight of coal placed on the fire. The wood supplied to each fire was also weighed and half its weight was added to the amount of coal, making a grand total of the fuel actually burned.

The following are descriptions of the grates tested, arranged in alphabetical order according to the name of the patentees or manufacturers, and they indicate for each grate respectively the amount of coal consumed less the amount of cinders (as explained above), the average temperature produced, and the average of smoke emitted. The descriptions are supplied by the manufacturers, but their inclusion in this report is not to be taken as implying confirmation by the examiners of the statements set forth in them. The results stated at the foot of each have been added by the examiners. The averages are taken for the whole period of four days of eight hours each, making 32 hours in all. It will be seen that the average of coal consumption varies from 19 to 41 lb. approximately; of temperature produced from 4° to 11° F., and of smoke emitted from 0·13 to 1·51.

Messrs Barnard, Bishop, and Barnard, Limited.—A slow combustion grate, with solid brick bottom sloping to the front. The fire basket is formed entirely of firebrick five inches deep at the bottom bar and seven inches at the top bar, continued the full height to flue opening. All the bricks are removeable from the front when necessary without disturbing the others. A rack blower is provided, reaching to within two inches of the top bar, thus making it possible to obtain a bright fire soon after the putting on of fresh coals. The bars project slightly, fitting into slides so as to be easily removed.

Average amount of coal burnt, minus cinders, plus half the wood, 25·13 lb.; average temperature produced, 4·8° F., average for smoke, 0·83.

Messrs Alex Boyd and Sons.—The "Cavendish" smokeless stove (Boyd's patent.)—This is claimed as a stove that will burn hard smokeless coal. The fuel basket is mounted so that it vibrates with a touch of the poker or of the foot, clearing itself of dust. The ashpit is inclosed to prevent dust escaping. A chimney is, of course, a necessity to carry away certain invisible products of combustion. A blower is used when first lighting and until the fire is really hot. This stove is intended for large halls or corridors rather than ordinary rooms. The necessity of having a flue pipe out in the room makes it rather unsightly for private use.

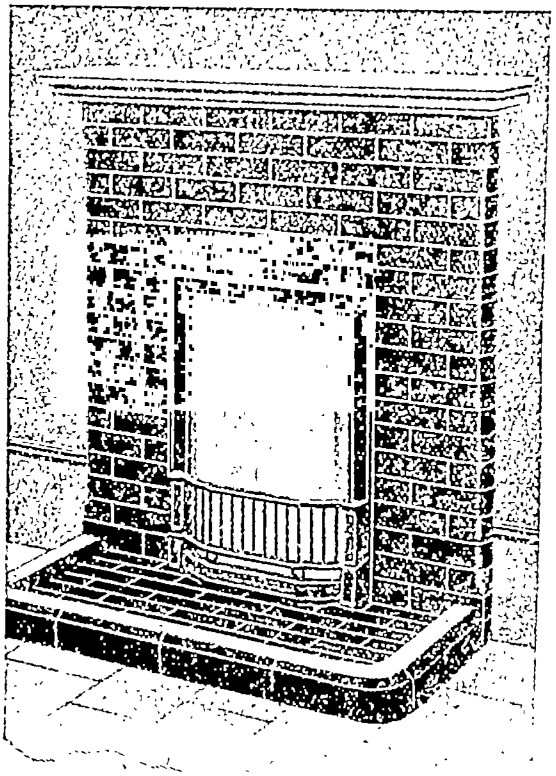
Coal, 33·07 lb. Temperature, 11·1° F. Smoke, 1·24.

Messrs. Bratt, Colbran, and Co.—The "Heaped Fire."—This not being a sunk fire, but in full view, and above the hearth level it is claimed that there is no danger from fire to hidden woodwork and that all through the day the hearth shall present a clean appearance. The fuel is heaped against the back brick. An economiser is provided to regulate the draught and when closed to make a slow-combustion stove. No underground channels for admission of air are necessary. The fire is constructed with a view to creating a draught suction and a steady incandescent fire.

Coal, 23·18 lb. Temperature, 6·8° F. Smoke, 0·87.

Messrs. Candy and Co., Limited.—The "Devon" fire (Fig. 1).—The Devon fire is constructed entirely of fireclay ware and is made for convenience in two pieces specially designed to radiate the heat most effectually towards the centre of the room; for this purpose the hearth is raised to the level of the fire. The lower portion of the fireplace has a solid bottom directly upon which the fire burns, there being no metal grid or air chamber beneath. It is claimed that the most perfect combustion is obtained by so placing the fire immediately on a solid block of fireclay and that with such an arrangement the question of ashes presents no difficulty whatever. The bottom may be made flat with detachable bars, as used in the present test, or may be hollow, in which case no bars are required. The illustration herewith shows a fire with flat bottom and detachable bars faced with a metal surround and moveable canopy, but these may be dispensed with and a simple brick arch substituted.

FIG. 1.



The "Devon" Fire.

Coal, 20·43 lb. Temperature, 7·4° F. Smoke, 0·79.

The Carron Company.—No. 391, Improved ventilating and smoke-consuming grate.—This grate is worked in a very simple manner which is effected by the use of flues constructed and filled with hot air on either side of the fire and superheated by close proximity with it. These flues, carried over the body of the grate, meet in the chimney immediately over the fire and at this point the superheated hot air is discharged and becomes the medium between the fire, the gases, and the smoke.

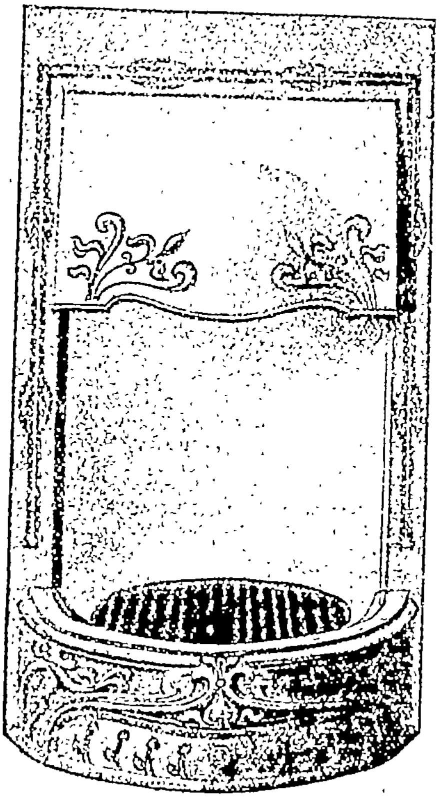
Coal, 34·68 lb. Temperature, 8·2° F. Smoke, 1·17.

Messrs. Chavasse and Kerr.—"Tropican" grate (patent).—This grate has firebrick backs with corrugated front, vertical construction, and a large radiating surface. The fire rests on a metal grating with a closed front and is raised about four inches above the hearth. When the front is closed air for combustion has access only to the top of the fire. To overcome stagnation a suction draught is introduced into the chimney through narrow passages formed in the firebrick. The air passing these passages is treated by coming in contact with the firebrick and is thus rarefied. The front heat generated in the fire is reserved for radiation, while a small quantity of heat behind which would otherwise be wasted, causes a steady and reliable draught from the room through the chimney.

Coal, 22·68 lb. Temperature, 6·6° F. Smoke, 0·97.

Messrs. J. and R. Corker, Limited.—The "Draw-well" grate (Fig. 3).—This grate is fitted with an adjustable canopy, semicircular and solid brick back, with solid brick back in front sloping inwards, the bottom forming a dish or basin with loose grate to lift out. There is a ventilating fret with pan attached. When the fire is out the bottom grate can be removed and the dust and ashes can then be carried away in the pan without causing them to fly about the room.

FIG. 2.



The "Draw-well" Grate.

Coal, 22·81 lb. Temperature, 8·3° F. Smoke, 1·02.

The Coalbrookdale Company, Limited.—The "Bostel" patent fireplace.—The "Bostel" patent fireplace is made so that the fire burns either sunk in the hearth or tilted up. The grate when tilted up induces a quick draught and when the fire has become a glowing mass the bars are lowered to the sunk position, bringing the fire well forward.

Coal, 41·43 lb. Temperature, 9° F. Smoke, 1·49.

Messrs. Doulton and Co., Limited.—Doulton's "Sunk Fire."—This fireplace is constructed with a fireclay well in which the fire burns on a removeable iron grid, this grid being raised to prevent the fire lying dead. At the back and sides of the well is a solid fireclay firebrick intended to radiate the heat downwards into the room. The fireclay well and back are intended to store the heat and to radiate it into the room.

Coal, 19·33 lb. Temperature, 7·4° F. Smoke, 1·14.

Downdraught Fireplace Company.—In the "Tiffin" interior a downdraught flue is carried up from the bottom of the fire on either side behind the usual firebrick cheeks. These flues are made to converge to a common centre immediately above the usual canopy and thence a single flue is carried round the oven or hot chamber, finally debouching behind the same into the chimney. On the underside of the oven where the converging flues meet a sliding soot door is fitted, reached for cleaning purposes by removing the adjustable canopy in the ordinary way. The downdraught flue is regulated by a damper fitted at the junction of the same with the chimney and this is actuated by a damper rod passing through the front of the stove.

Coal, 23·18 lb. Temperature, 7·3° F. Smoke, 1·0.

The Eagle Range and Gas Stove Company, Limited.—The "Premier Gold Medal Eagle Grate."—This grate was designed as an improvement on the old pattern "Eagle" grate. It is fitted with four sliding doors, two above the front bars and two on a level with the same. The object of the top sliding doors is to enable a bright fire to be obtained a few minutes after lighting or to revive a dull fire after having been left for some hours. The object of the bottom doors is to obtain slow combustion by drawing them in front of the bars and so exclude any air from the fire. Another special feature is that the front bars can be lowered so that the greatest amount of heat can be obtained from the hottest part of the fire. The top bars can also be entirely removed so that the grate may be used for burning logs, &c. The bricks are all made of a special shape with the intention that the heat shall be thrown into the room.

Coal, 25·18 lb. Temperature, 6·3° F. Smoke, 0·79.

The Falkirk Iron Company.—No. 503 "Interior" grate.—This "Interior" is an economic barless grate intended to effect complete combustion and economy of fuel. It is fitted with a hinged adjustable canopy but is easily removeable for access to chimney for sweeping. The bottom is concave in shape, of firebrick at back and cast-iron grating in front, and forms a well for the fire. The roll front is intended to prevent the fuel from falling on to the hearth. The back is composed of firebrick slabs fitted in cast-iron frames and is easily removed from the front when required without disturbing the grate.

Coal, 20·81 lb. Temperature, 6·6° F. Smoke, 1·13.

Messrs. Hattersley Brothers, Limited—The "Rage" grate.—This grate is constructed with five firebricks removeable from the front without unfixing the grate. The two sides, the back, the top, and the front are fitted in metal casing and cannot get out of position; there is also a strong metal bottom grating, draw-out ashpan, and barless front with moveable guard constructed with "hit and miss grid" to control the fire. The canopy swinging upon pivots is adjustable to several positions and is removeable for the purpose of sweeping the main flue.

Coal, 23·43 lb. Temperature, 6·5° F. Smoke, 1·14.

The London Warming and Ventilating Company, Limited.—The "Florence" patent grate with patent automatic shaking bars and combination canopy regulator.—This grate has a self-contained auxiliary flue controlled by a damper connected to the adjustable canopy. It is claimed that when the canopy is closed and the back flue is brought into use the smoke is drawn through a fire to a point where the heat is practically incandescent and is consumed to an appreciable extent. The automatic shaking bars consist of a number of separate bars loosely mounted on a square shaft and made abnormally deep in the body intended to heat the ascending air currents as the weight of coal varies in the different bars; the bars are intended to rock and clear the fire of ashes and dust, thus allowing a continuous current of air at a high temperature to pass through the fuel and cause it to burn brightly even in small quantities.

Coal, 27·13 lb. Temperature, 9·3° F. Smoke, 1·01.

Messrs. Longden and Co.—This grate has a firebrick deflector or knee-brick of a special section, calculated in relation to the bars of the fire and its consequently enlarged heating capacity. This brick by its reaction throws the heat of the fire forward and downward. The economiser below the fire forms a regulator for the draught.

Coal, 27·51 lb. Temperature, 8·8° F. Smoke, 0·92.

Messrs. O'Brien, Thomas, and Co.—The "Aureole" patent grate.—This grate is constructed with a firebox of loose firebricks encased in a metal frame with steel vertical spindle bars. The special feature of the grate is the patent fire regulator which is composed of a blower and a damper; the one part regulates the air passing into, through, and above the fire, and the other as it passes into the chimney, thus providing a means of regulating the combustion of the fuel. The canopy can be adjusted so that the space between the edge of the top bar and the bottom edge of the canopy is either four and a half inches or nine inches, and the regulator is adjustable so as to leave the opening into the flue from three-eighths of an inch when down to the full size of the flap when opened or at any intermediate point.

Coal, 27·43 lb. Temperature, 8·6° F. Smoke, 1·07.

Messrs. Alexander Ritchie and Co.—The "Castle Baynard" barless stove.—This stove is constructed without front bars. The fire is provided with a loose hanging plate at the back of the moveable canopy, the object of which is to allow a greater flue area at the top of the stove which may be partially reduced as desired without fear of the grate smoking. This plate forms two flues for the passage of smoke into the chimney with a view to assist the ventilation of the room without increasing the draught of the stove. When the canopy and plate are removed complete access to the chimney for fixing and sweeping purposes is provided. The scoop-shaped firebox projects towards the room with the firebrick lining hanging over the fire, the object sought being to secure the full value of heat in the room. It is claimed that this form of firebox causes the fuel to collect in the centre of the grate as it burns down.

Coal, 32·43 lb. Temperature, 8·9° F. Smoke, 1·04.

The Sinclair Iron Company, Limited.—The "Rosneath" open fire-grate.—This grate is constructed so that it shall wholly project into the apartment and radiate heat into the room from the side bricks as well as from the back brick. The top of the back brick is brought very close to the sloping cast-iron front of the grate, so that the orifice into the chimney is the whole width of the grate but very narrow back to front. The main communication between the fire-grate and the chimney is by means of a series of channels cut in the top of the back brick, and through these channels the gases escape into the nozzle and thence into the chimney.

Coal, 27·83 lb. Temperature, 5·6° F. Smoke, 0·85.

Messrs. Wilmer and Sons.—Bond's patent sunk fire-grate.—The sides and back of this stove are formed of six fireclay slabs standing upon a base brick, the back brick inclining forward with the object of deflecting the heat out into the room. These bricks are of extra height, being 36 inches from the base brick to the opening into the flue. The opening into the flue has a horizontal direction, the cold air passing through an iron plate at the highest point of the arch, with the object of causing the hot air to be diffused into the room. It is claimed that the fireclay base brick, upon which the loose bottom grating stands, becomes superheated and renders more complete combustion of the fuel. The bottom grating is constructed so that the ashes can be readily removed at any time.

Coal, 29·9 lb. Temperature, 7·9° F. Smoke, 1·06.

Messrs. George Wright, Limited.—The "Tandem" stove.—In this grate there are three flues behind the back which open into the ashpit at the bottom and the chimney at the top. There is a special gilled dead plate bottom, closed at the front, and a special controlled register door. The fire is lighted in the ordinary way with the usual smoke exit to the chimney. When the fire is well alight the register door is closed and it is claimed that the smoke is forced to descend the centre flue behind the stove-back to the ashpit, thence passing through the gills of the dead plate up the side flues behind the stove-back to the chimney.

Coal, 23·13 lb. Temperature, 6·2° F. Smoke, 1·2.

Messrs. Yates Haywood.—The "Bonfire" barless stove.—The fire of this stove is raised very little above the level of the hearth but sufficiently so to admit of the easy removal of the ashes when cleaning. is entirely lined with fire lumps which can be out without disturbing the stove. A "hit and miss" ventilator regulates the admission of air to the bottom grate. Through a space at the back of the fire lump superheated air passes from the ashpit and enters above the fire, this, and the form of the casing, which inclines forward, having for their object the securing of a more perfect combustion of gases from the fuel. Two other spaces having outlets at the top of the inclined brick perform a similar duty as the smoke leaves the stove. The side ducts or tubes on the right and left of the stove are fed by air drawn through the perforation at the bottom of the tiled slabs, with a view to causing it to become rarefied by contact with the sides of the stove and so to assist in securing a steady draught up the flue.

Coal, 26·63 lb. Temperature, 7·4° F. Smoke, 0·81.

TABLE I.—*Showing Results of Tests on 24 Open Grates burning Bituminous Coal.*

Names of firms (given in alphabetical order).	Average amount of coal, less cinders, plus half wood, in pounds.	Temperatures (degrees Fahrenheit).				Smoke average.
		I. Thermometer in corridor.	II. Thermometer in room.	Difference between I. and II.	Radiation.	
Barnard, Bishop, and Barnard	25·13	45·4	50·2	4·8	72·9	0·83
Boyd and Sons	33·07	,,	56·5	11·1	78·4	1·24
Bratt, Colbran, and Co. ...	28·18	,,	52·2	6·8	76·8	0·87
Candy and Co.	20·43	,,	52·8	7·4	71·6	0·79
Carron Co. B.	34·63	,,	53·6	8·2	80·05	1·17
Ditto. C.	32·05	,,	51·3	6·4	77·0	1·11
Chavasse and Kerr	22·68	,,	52·0	6·6	71·7	0·97
Corker, J. and R.	22·81	,,	53·7	8·3	71·8	1·02
Coalbrookdale Co. B. ...	41·43	,,	54·4	9·0	82·5	1·49
Ditto. C. ...	21·73	,,	51·8	6·4	69·2	1·32
Doulton and Co.	19·33	,,	52·8	7·4	68·1	1·14
Downdraught Fireplace Co.	23·18	,,	52·7	7·3	73·6	1·05
Eagle Range Co.	25·18	,,	51·7	6·3	71·9	0·79
Falkirk Iron Co.	20·81	,,	52·0	6·6	74·2	1·13
Hattersley Bros.	23·43	,,	51·9	6·5	75·4	1·14
London Warming and Ventilating Co. A. ...	27·13	,,	54·7	9·3	74·0	1·01
Ditto. B. ...	36·43	,,	55·6	10·2	82·5	1·0
Longden and Co.	27·51	,,	54·2	8·8	76·7	0·92
O'Brien, Thomas, and Co.	27·48	,,	54·0	8·6	75·6	1·07
Ritchie and Co.	32·43	,,	54·3	8·9	74·1	1·04
Sinclair Iron Co.	27·83	,,	51·0	5·6	72·5	0·85
Wilmer and Sons	29·9	,,	53·3	7·9	78·8	1·06
Geo. Wright and Co., Ltd.	23·13	,,	51·6	6·2	76·8	1·2
Yates Haywood and Co. ...	26·63	,,	52·8	7·4	74·8	0·81

Upon the result obtained the examiners selected the following grates for further test—viz., those of Messrs. Candy, Messrs. J. and R. Corker, and the London Warming and Ventilating Company (A.). The amount of coal consumed by these grates was found to be moderate in comparative proportion with temperature obtained; the fires were bright and clear and the smoke emitted bore favourable comparison with the results recorded for the other grates.

Arrangements were now made for testing the remaining 12 of the total number of grates selected from those submitted. They were fixed in 12 of the rooms used for the first set and the tests were conducted in a precisely similar manner. (See Table II.)

Date of tests.—The tests were carried out on Jan. 2nd, 3rd, 4th, and 5th, 1906.

The following descriptions (arranged in alphabetical order) and the results attained by the examiners followed the lines of the previous ones.

The "Arnott" grate.—The "Arnott" grate was invented more than half a century ago by Dr. Neil Arnott. Suppose the bottom bars—viz., the bars on which the fuel lies—to be removed from an ordinary grate and an open-topped cast-iron box, the top of which is the same size as the bottom of the grate, to be placed under the grate, the grate being raised half as high again as usual to give room for the box, which is 12 inches deep. Coal put in at the top of the grate will at first fall to the bottom of the box and if enough is put in there will be a continuous pile of coal from the bottom of the box to the top of the grate. This column of coal is lighted an inch or two from the top in the usual way with paper and a few sticks of wood and it is claimed that the upper few inches of fuel are rapidly blown into a state of active combustion as the bottom of the flue-pipe is very little above the top of the fuel, thereby causing a strong draught.

Coal, 31·13 lb. Temperature, 9·6° F. Smoke, 1·13.

Bell's patent basket fire-grate.—In this stove the brick entirely covers the fire and the shape of the brick insures, with reasonable care in setting, an absolutely solid backing. The hot-air chamber formed by the platform and ashpan is intended to promote combustion so as to leave no cinders. The platform is intended to form a safety guard and to shield the fire from a too rapid intake of air, also to preserve a clean hearth. The firebrick back is in one piece and being filled solid behind and wedge-stapled on to the metal front cannot shift when fractured by expansion and contraction.

Coal, 38 63 lb. Temperature, 9·7° F. Smoke, 1·28.

Chavasse's patent fire-grate.—This grate is composed of two vents, one frame, one fire-bottom, two fireclay cheeks, one fireclay back, one fireclay sloping top, or radiator. The object sought is that the air shall pass out of the room through the vents on each side of the grate and along a rebate or chamber in the back of the cheeks. The cheeks being hot from the fire the air becomes rarefied and passes up the rebates in the back of the fireclay back; at the top of the fireclay back the rarefied air passes out just over the fire and under the sloping top or radiator and the air at this point helps to consume the carbon.

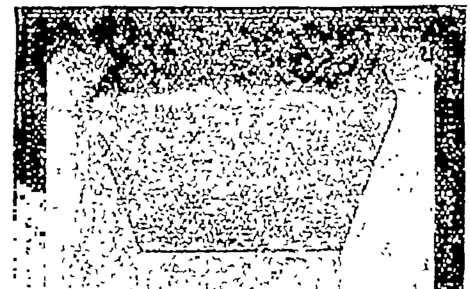
Coal, 21·43 lb. Temperature, 5·1° F. Smoke, 1·40.

The "Firth" grate.—The air is supplied principally from the back and sides, both inside and out, which are perforated and ribbed on the inside, having slotted openings in the bottom grate so as to allow the air to have free passage around the fire through the openings and up between the ribs. It is claimed for this grate that there is no rush of air from the front and that the moisture in the coal quietly ascends as steam, causing the light and heavy carburetted hydrogen gases to rise and to be met by from eight to ten times the volume of air which they require for the firing or explosive point, and burn with a bright flame, during which time the coal is coked, the impurities in the coal dropping to the bottom, none of them being driven into the atmosphere, and an incandescent fire being then formed.

Coal, 26·23 lb. Temperature, 3 1° F. Smoke, 0·66.

Messrs. Hendry and Pattisson.—A. D. O. Boyd's improved "Hygiastic" warm-air grate. (Fig. 3.)—These grates are supplied with fresh air from the outside with the object of circulating round the back of the grate and entering the room through a grating over the fire in a continuous stream, thus keeping the temperature even and ventilating the room by expelling the foul air. The cast-iron fronts are fitted with canopy or without, as preferred. The lumps are of fireclay and are sloped to assist radiation, and being built up of specially unbreakable joints it is claimed that they will not crack through unequal expansion or inter se heat. They are encased in a riveted steel back which is carried up and finished round the flue so as to simplify and lessen the cost of fixing. There are regulating valves for the smoke and air and a box ashpan under the fire for the purpose of keeping the hearth clean and economising fuel. The bars slope inwards with the intention of deflecting air into the fuel and preventing cinders or coal from dropping out.

FIG. 3.



D. O. Boyd's "Hygiastic" Grate.

Coal, 23·3 lb. Temperature, 7·2° F. Smoke, 0·13.

Messrs. Hendry and Pattisson.—B. No. 2, D. O. Boyd's improved "Non-warm Air grate."—The cast-iron fronts of this grate are fitted with canopy, or without as preferred. The lumps are of the best Stourbridge fireclay and are built up with extra unbreakable joints and secured to the front with wrought-iron straps. They are sloped with the object of assisting radiation and it is claimed that they will not crack through unequal expansion or intense heat. There is a regulating valve for the smoke and a box ashpan under the fire for the purpose of keeping the hearth clean and economising fuel when slow combustion is required. The bars slope inwards with the intention of deflecting air into the fuel and preventing cinders or coal from dropping out. The cost of fixing these grates is very small.

Coal, 33·18 lb. Temperature, 8 8° F. Smoke, 1·22.

The Nautilus Fire and Heating Company.—The "Nautilus" grate is a firebrick lined, slow combustion dog stove, and burns coal, coke, or wood. The products of combustion rise from the fire and pass off through the exit nozzles into the chimney. Heat is radiated directly from the open fire and indirectly from the whole exterior of the grate, particularly the hood. A register door for sweeping incloses the chimney immediately over the grate, with the object of obviating any waste of heat, and provision is made for regulating the draught from maximum to minimum by means of dampers on each side of the grate. The ashes fall through the grating into the concealed ashpan, thus allowing dust to fall upon the hearth and insuring greater safety.

Coal, 34·93 lb. Temperature, 6° F. Smoke, 1·22.

Messrs. Alexander Ritchie and Co.—"Castle Baynard" "level."—In this grate the front is formed of tiles which may be of any colour; the back is formed of fireclay; this hangs over the coals to cause the heat to be radiated into the room, especially on to the floor. The fuel is placed on a grating raised about four inches above the level of the floor with the intention of obviating the use of a raised hearth or an ashpit sunk below the floor level. The grating on which the coal lies permits of the ashes being cleared while the fire is burning; the ashes are received in a tray underneath and behind the moveable ashguard which also regulates the supply of air below the bars. The hearth, which is flush with the floor, becomes heated.

Coal, 18·63 lb. Temperature, 4·7° F. Smoke, 1·45.

Messrs. Smith and Wellstood.—An open fire-grate, with cast-iron front; the fire chamber is 18 inches wide and is lined at the sides and back with firebrick, with front bars and steel vertical bars An auxiliary flue is made through the lower portion of the back brick, passing up the back of this brick and entering the main flue behind the canopy. This flue is intended to draw the smoke from a newly stoked fire, partly through the incandescent fuel, there to be ignited and heat the back of the brick. A moveable canopy opens and closes this flue as required. When the canopy is open the flames pass up the front of the back brick as with an ordinary grate.

Coal, 26·43 lb. Temperature, 7·0° F. Smoke, 1·05.

The Teale Fireplace Company.—B. The Teale "Economiser Popular Type."—This grate has a firebrick back in four parts, readily replaced from the front, and inclosed in a double sheet steel casing forming an air chamber, air being drawn from outside and discharged from the grating above. The outlet for warm air is controlled by means of a louvre. In the case of the fireplace submitted for test, air had to be drawn from the room as it was not possible to get it direct from the outside. This fireplace is arranged with the object of preventing the smoke leaking into the air chamber.

Coal 20·93 lb. Temperature, 5·9° F. Smoke, 1·49.

Messrs. Wilson and Smith.—Patent "Peveril" stove.—The patent "Peveril" stove is constructed with a double canopy, one behind the other, and the back one is opened or closed by the wings at the back of the front canopy, pressing against the lower portion of the plate at the back. A plate divides the back flue into two parts and gives increased flue area. It is intended to prevent smoking and that any smoke missing the back flue shall be caught in the wide mouth of the front flue, and by this arrangement the combustion be regulated to any degree. There are no front bars.

Coal, 34·9 lb. Temperature, 6·3° F. Smoke, 1·11.

Messrs. Yates Haywood.—No. 1902, a heating and ventilating register stove.—This stove is constructed with a horizontally gilled back, which is inclosed with sheet iron, forming a warm-air chamber. It is entirely self contained, requiring no special fixing. Air is admitted to the chamber through the perforations, or fresh air from the outside is brought by a duct and enters at the base. It then is intended to pass backwards and forwards between the gills and thereby to become warmed and afterwards emitted through a "Hit and miss" ventilator into the room. Through a space at the back of the fire lump superheated air is intended to be drawn from underneath the bottom grate and to enter immediately over the fire and assist in the combustion of fuel and smoke. The back slopes forward over the fire. The grate is lined throughout with fire lumps which can be renewed from the front without disturbing the stove.

Coal, 23 9 lb. Temperature, 5·2° F. Smoke, 1·48.

TABLE II.—*Showing Results of Tests on 12 Open Grates burning Bituminous Coal.*

Names of firms (given in alphabetical order).	Average amount of coal, less cinders, plus half wood, in pounds.	Temperatures (degrees Fahrenheit). I. Thermometer in corridor.	II. Thermometer in room.	Difference between I. and II.	Radiation.	Smoke average.
Arnott (J. Horsfall)	31·13	44·9	54·5	9 6	83·6	1·13
Bell and Co.	38·63	,,	54·6	9·7	91·5	1·23
Chavasse, J. J.	21·43	,,	50·0	5·1	72·3	1·40
Firth	26·23	,,	46·0	3·1	78·0	0·66
Hendry and Pattisson. A.	28·3	,,	52·1	7·2	90·2	0·13
Ditto. B.	33·18	,,	53·7	8 8	91·9	1·22
Nautilus Fire & Heating Co.	34·93	,,	50 9	6·0	76·2	1·22
Ritchie and Co.	18·63	,,	49·6	4·7	76·4	1·45
Smith and Wellstood ...	26·43	,,	52·0	7·0	84·6	1·05
Teale Fireplace Co. A. ...	24·16	,,	48·3	3·4	72·1	1·26
Ditto. B. ...	20·93	,,	50 8	5·9	76 0	1·49
Wilson and Smith	34 9	,,	51·2	6 3	82 9	1·11
Yates Haywood and Co. ...	23·9	,,	50·1	5·2	76·9	1·48

Upon the results obtained the examiners selected three grates to be tested again, inasmuch, however, as the grate submitted by the London Warming and Ventilating Company and that sent by Messrs. Smith and Wellstood were found to be identical, the latter was not subjected to this test.

Dates of tests.—The tests were carried out on Jan. 30th and 31st and Feb. 1st and 5th. The results are set out in Table III.

TABLE III.—*Showing Results obtained on Re-testing Five Selected Grates.*

Names of firms (given in alphabetical order).	Amount of coal, less cinders, plus half wood, in pounds.	Ashes in pounds.	Stoking.	Temperatures (degrees Fahrenheit). I. Thermometer in passage.	II. Thermometer in room.	Difference between I. and II.	Radiation.	Smoke.
Candy and Co. ...	25·25	2·6	4·0	43·9	51·7	7 8	84·3	0·85
Corker, J. and R. ...	26·0	1·3	4·0	,,	52 75	8·8	70·3	0 70
Hendry and Pattisson (Boyd)	35·9	2·25	5·75	,,	55 4	11·5	93 1	0·68
London Warming and Ventilating Co.	25·75	1·9	4·2	,,	50 6	6·7	82 2	0·79
Teale Fireplace Co.	26 25	1·3	4·0	,,	52·6	8·7	83·9	0 84

On the suggestion of Mr. A. O. Ackermann, M.I.C.E., the grates in the final series were submitted to the carbon dioxide test with the object of ascertaining their efficiency as coal-burning machines for producing heat. For this test the subcommittee secured the services of Dr. J. S. Owens, A.M.I.C.E., whose report is as follows:—

REPORT UPON THE THERMAL EFFICIENCY OF FIVE DOMESTIC FIRE-GRATES TESTED ON FEB. 5TH, 1906, AT THE REQUEST DR. DES VŒUX.

The following were the grates tested, which will be referred to by their respective letters:—

A.—Teale Fireplace Company	Room	11B.
B.—W. B. Clarke and Co.	,,	12A.
C.—D. O. Boyd's Improved "Hygiastic" Grate, by Hendry and Pattisson	,,	12B.
D.—Candy and Co.	,,	13B.
E.—London Warming and Ventilating Co. ...	,,	14C.

The accompanying table (Table IV.) exhibits the results of these tests which were continued for a period of eight hours simultaneously on each grate.

It will be seen that the grates showed in every case an extremely low efficiency when considered as a means of heating the air of a room. This efficiency is, as shown in Table IV., the percentage of the total heat or calorific value of the coal burnt which is actually utilised in warming the air passed through the room. The results show that less than 7 per cent. of the total heat of the coal is thus utilised. In the case of steam boilers from 70 to 75 per cent. of the calorific value of the coal is transferred to the water. Hence the efficiency of steam boilers is over ten times as great as domestic fire-grates.

Considering the two best grates, C and D, the quantity of heat given to the walls, chiefly by radiation, is very great, amounting to over 79 per cent. in C and 76 per cent. in D; but it must not be thought that this is all lost heat. It is well known that we feel warm in a room with warm walls in which the air is cold but we feel cold in a room with cold walls in which the air may be warm. This is largely because air is such a bad conductor of heat and because we are very sensitive to radiant heat.

Though a search has been made for similar data with which to compare the results of these tests, the only figures I have been able to obtain were kindly given me by Mr. Ackermann. He carried out some very complete tests of a hot water warming plant at a large London hospital, the results of which showed that 22 per cent. of the heat discharged from the radiators was utilised in warming the air of the room, while the remaining 78 per cent. was radiated into the walls and through the windows. Thus it will be seen that the percentage of heat taken by the walls was practically the same for the radiators and open fires, while the efficiency of the radiators in warming the air of the room was about three times as great as that of the open fires. If, however, we consider the efficiency of the hot water plant, taking into account all heat losses from the furnace to the radiators, the figures become more alike, being 8 per cent. of the heat of the fuel burnt for the hot water plant, as against 7 per cent. for the open fires. In the apparatus which Mr. Ackermann tested the distance from the source of heat to the radiators was abnormally great and consequently a very large quantity of heat was lost in transit.

In the case of the open fires the chimney losses, 14 to 16 per cent., are about twice as great as compared with the efficiency. In the case of the radiators, there are no chimney losses, the rooms being the equivalent of the *chimneys and rooms* together in the case of the open fires.

If for the open fires C and D we add the chimney losses to the heat given to the air of the room, we have, say, 21 per cent. and 23 per cent. as the combined efficiency, which compares very well with the 22 per cent. which Mr. Ackermann obtained in the case of radiators.

The details of most importance in Table IV.:—

No. 5, showing total ventilating effect.

No. 6, comparative ventilating effects per pound of coal burnt.

No. 13, showing the efficiency of grate.

No. 14, showing the percentage of heat lost or rather used in ventilating room.

No. 15, the percentage of heat used in warming walls of house. This heat is also doing useful work, keeping walls free from damp and radiating back into the room as pointed out above.

The meteorological conditions and the hygrometric conditions of the air during the test are shown in Tables V. and VI.

JOHN S. OWENS, M.D., A.M. Inst. C.E., &c.

TABLE IV.—*Showing Results obtained in testing Thermal Efficiency of Five Open Grates.*

No.	—	Reference letter of grate and name of maker. A Teale Fireplace Co. Room 11B.	B W. B. Clarke and Co. Room 12A.	C D. O. Boyd's Improved "Hygiastic," Hendry and Pattisson. Room 12B.	D Candy and Co. Room 13B.	E London Warming and Ventilating Co. Room 14C.
1	Coal burnt in pounds per hour during test.	2¼	3¼	3¾	3¼	3¼
2	Carbon burnt in pounds per hour during test.	2	2·5	3	2·5	2·5
3	Calorific value of coal burnt per hour in British thermal units.	38,900	46,125	55,350	46,125	46,125
4	Mean steady temperature of flue gases.	84° F.	86° F.	100° F.	90° F.	84° F.
5	Cubic feet of flue gases passed per hour up chimney.	6883	7934	9738	10,937	6520
6	Cubic feet of air passed per hour up chimney per pound of coal burnt.	2753	2539	2597	3516	2022
7	Mean rise of temperature of flue gases above room temperature.	30° F.	30° F.	41° F.	36° F.	33° F.
8	Heat lost in flue gases per hour in British thermal units.	4002	4620	7749	7668	4043
9	Mean steady temperature of room.	54° F.	56° F.	59° F.	54° F.	51° F.
10	Mean rise of temperature of air passed through room from inlet temperature.	14° F.	16° F.	20° F.	14° F.	11° F.
11	Heat used in warming air passed through the room per hour in British thermal units.	1968	2464	3780	2962	1347
12	Contents of room in cubic feet.	3871	3974	3926	3931	4216
13	Efficiency—that is, the percentage of the total heat of coal burnt which is given to the air passed through the room.	5·06	5·33	6·83	6·46	2·92
14	Percentage of total heat of coal burnt which is lost in the flue gases.	10·84	10·01	14·00	16·62	8·77
15	Percentage of total heat of coal burnt which is given to walls &c., of room, chiefly by radiation.	84·10	84·66	79·17	76·92	88·31

TABLE V.—*Meteorological Conditions in London on Feb. 5th, 1906, during the progress of the grate tests.*

Barometer	8 A.M., 30·2. 8 P.M., 30·25.
Thermometer	Maximum, 41° F. Minimum, 33° F.
Wind	N.E.; light.
Weather	Fine.

TABLE VI.—*The Hygrometric Conditions of the Air in London during the Progress of the Tests* (*taken from* The Times.)

Time.	Temperature. Air.	Temperature. Dew point.	Tension of vapour.	Weight of vapour in 10 cubic feet of air.	Humidity. Saturation = 100.
Noon	38° F.	28° F.	0·153 inch.	18 grains.	67 per cent.
6 P.M. ...	39°	30°	0·167 ,,	20 ,,	71 ,,
Midnight...	36°	22°	0 118 ,,	14 ,,	56 ,,

As a final result of the whole of the tests before described the examiners find that of the grates submitted those of Messrs. J. and R. Corker, Messrs. Candy and Co., and Messrs. Hendry and Pattisson (Boyd's) are the best, showing practically equal results, and that the "Florence" (the London Warming and Ventilating Company) very nearly approximates to them.

It must be remembered that all these grates were worked with the object of obtaining their utmost capacity and not under the conditions obtaining in an ordinary room which would generally be more variable. The fires were not allowed to burn low, therefore the amount of smoke emitted in these tests was the minimum that can be expected.

It will be observed that the meteorological conditions during the period of testing were highly favourable.

THE
FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held at Lisbon, April 19th—April 26th, 1906.

THE SECTIONS.

ANATOMY.

Professor **NATHAN LOEWENTHAL** (Lausanne) contributed a paper upon—

A System of Histological, Cytological, and Embryological Nomenclature for the Entire Animal Kingdom.

The preparation of this paper which, as the title implies, is mainly concerned with microscopic anatomy, must have been a work of immense labour and research. The principal part of it is a vocabulary which fills 94 large pages and is arranged in double columns (one French and one German) on each page. More than 3000 various structures must therefore have their equivalent names given in the two languages. Some of the principal general headings into which the vocabulary is subdivided are as follows: Constituent parts of cells, epithelium of different kinds, glands, nerve tissue, muscular tissue, blood, lymph, connective tissue (including serous, mucous, and synovial membranes, fat, tendons, and nerve trunks), cartilage, bone, dental tissue, lympho-adenoid tissue, blood-vessels, lymphatic system, tegumentary system of animal types from the mammalia to the lamprey, and finally organs of special sense. The vocabulary proper is followed by about 24 pages of explanatory remarks, among which is inserted a page of diagrams illustrating various types of glands. In these remarks many suggestions are made with a view to secure uniformity of nomenclature. As an example of the unnecessary multiplicity of expressions it is pointed out that there are five synonyms for the striæ of muscular fibre. Under the heading of Blood the author says that in the most recent literature a distinction is made between leucocytes and lymphocytes but he doubts if the distinction is justifiable. He objects to the terms leucocytes or white corpuscles (*globules blancs*) because these cells are no whiter than many others and he suggests the designation lymphocytes as being preferable. Referring to the blood platelets (*plaquettes sanguines ou de Bizzozero, hématoblastes de Hayem*), he says that they are called thrombocytes in the most recent literature; they are supposed to have some influence on the coagulation of the blood; their origin and histological position are uncertain.

NEUROLOGY, PSYCHIATRY, AND CRIMINAL ANTHROPOLOGY.

Dr. **DAVID FERRIER** (London) read a paper upon

The Nature and Physiological Pathology of Tabes Dorsalis.

After giving a brief summary of the morbid appearances seen in tabes dorsalis he proceeded to consider various theories of the tabetic process, such as that it depended on primary interstitial necrosis, on posterior spinal meningitis, on syphilitic disease of the posterior lymphatic system of the spinal cord, and on general syphilosis of the meninges. After showing that valid objections could be raised to each of these theories he said that it seemed better to adopt the hypothesis of Thomas and Hauser that the fundamental lesion of tabes dorsalis was a dystrophy, similar to that produced by certain toxic agents, affecting the sensory protoneuron as a whole and leading to degeneration of its outlying parts, of which the central intramedullary prolongations were the most vulnerable. The essential factor in the degeneration of the intramedullary prolongations of the neuron seemed to be the absence of the neurilemma sheath in the intramedullary continuations of the posterior root fibres. The point where the fibres lost their neurilemma sheaths was, as has been emphasised by Orr and Rows, just after they have penetrated the pia mater. The hypothesis of a dystrophy of the sensory protoneuron as the fundamental lesion of tabes dorsalis rendered it easy to understand how not only the sensory protoneuron but other neurons in the sympathetic and elsewhere might be attacked in a similar manner. Dr. Ferrier then expressed his belief in the essential pathological identity of tabes dorsalis and general paralysis, both of them being, in his opinion, merely different aspects of the same polymorphic disease. Both were tabetic or wasting diseases, the dystrophy affecting mainly the sensory protoneuron in the one case and the psychomotor neuron in the other. Not infrequently the two affections were combined in the so-called tabo-paralysis. Clinically some of the most characteristic symptoms were common to both—notably the Argyll-Robertson pupil—and in both there was the same lymphocytosis of the cerebro-spinal fluid. The underlying etiological factors were the same—namely, antecedent syphilitic infection—and in both of them the development of the symptoms was on an average from seven to ten years after the date of the primary sore. It would, therefore, in his opinion, be advisable to recognise the identity of tabes dorsalis and general paralysis in medical terminology and to call them by the generic name tabes, classing them specifically as cerebral tabes (general paralysis), spinal tabes (tabes dorsalis, locomotor ataxy), and cerebro-spinal tabes (tabo-paralysis), according as the disease affected the brain, the spinal cord, or both conjointly. With regard to the physiological pathology of tabes dorsalis Dr. Ferrier confined himself to the consideration of one of its most characteristic features—namely, ataxy. In tabes dorsalis the motor neuron was intact, the electrical reactions of the muscles were normal, and their dynamic strength was not necessarily impaired. The paths of impulse from the cortical centres were free from degeneration and so also were the efferent tracts from the cerebellum. The lesion was therefore on the afferent or sensory side of the apparatus of movement and was manifested by loss of knee-jerk and by various forms of sensory perversion or impairment showing themselves in the skin, bones, joints, tendons, and muscles.

Dr. J. F. **SUTHERLAND**, deputy commissioner in lunacy for Scotland, read a paper upon

The Prophylaxis and Treatment of Criminal Recidivists.

He said that recidivism was the French-coined term most appropriate to express the persistent reiterated lapses of the same individual both among criminals charged with serious attacks on person and property and also among petty offenders whose delinquencies or misdemeanours were drunkenness, breaches of the peace, public disorder, prostitution, and vagrancy. The former were aggressive, noxious, anti-social, and to a slight extent industrious and productive; the latter, as a rule, were passive, idle, debauched, parasitic, and unproductive. The two types were quite distinct and there was little or no intermingling, for the recidivist engaging in the major crimes did not become a recidivist in the minor and petty offender class, and *vice versâ*. There were two principal causes of criminality. One of these was external to the recidivist—namely, environment and the economic conditions bringing it about and perpetuating it, whilst the other was internal and hereditary and required to be estimated by the psychological and the psycho-pathological method. Racial differences were not of much moment except in regard (1) to the drink habit so prevalent among the Celtic, Teutonic, and Slavonic peoples in Northern France, the United States of America, Northern Germany, Denmark, Sweden, Russia, Belgium, the Netherlands, and Great Britain and Ireland; and (2) to the habit of carrying lethal weapons practised by the Celtiberian peoples of Spain, Portugal, the Balkan States, Italy, and along the littoral of the Mediterranean. After a lengthy analysis of the statistics of crimes and petty offences in Scotland and England for 1903 Dr. Sutherland said that without exception recidivism of every description was in the main in every country a product of urban life. It was rarely met with in rural districts. Recidivists lived in the insanitary, overcrowded, and wretched abodes which formed the slums of towns and cities. With regard to the classification of criminals, Dr. Sutherland approved of the following classification put forward some years ago by Lombroso, Benedikt, Havelock Ellis, and others: 1. Criminals by passion. These were persons who acted on the spur of the moment and were known by their good lives and genuine remorse. 2. Occasional criminals. These were not naturally inclined to crime, but were weak and easily led. Bad heredity was prominent in this class. 3 Habitual criminals (recidivists). These were made up (*a*) of those who were weak and helpless mentally and physically and (*b*) of those who deliberately adopted a career of crime. The professional was the aristocrat among criminals and was often skilled and intelligent. 4. Instinctive criminals. To this class belonged the congenital or born criminal, the *uomo delinquente*, who was decreed by nature to be such. He was regarded by Lombroso as morally insane. His type was clearly of the degenerate stock. 5. Insane criminals. These were, in the opinion of the Italian school, an exaggeration of the instinctive criminals. On the subject of the punishment of crime, Dr. Sutherland expressed disapproval of solitary confinement and recommended the conversion of prisons into industrial reformatories with associated labour.

HYGIENE AND COLONIAL MEDICINE.

The Relations of the Mosquito to Yellow Fever.

ON Saturday morning, April 21st, the section on hygiene sat with the section on colonial medicine (Sections XIV. and XVII.). The chair was taken by Professor HUBERT BOYCE of Liverpool and the now well-known doctrine that yellow fever is propagated by mosquito bites was fully discussed. It was maintained that the yellow fever patient was only capable of infecting the stegomyia fasciata mosquito during the first few days at the beginning of the access of fever. Then it was argued that this mosquito only bit in the day-time or by artificial light. Professor Boyce said that for prophylactic purposes this did not much matter and the same precaution would apply both to the day and the night.

Dr. H. W. AUSTIN of the United States Marine Health Service said that yellow fever was a disease which came under his supervision and it was his duty to see that prophylactic measures were enforced. These precautions were all based on the theory that the mosquito was the cause of yellow fever. At New Orleans and elsewhere action had been taken by local authorities and he could not answer for the principles on which they proceeded. They might possibly differ with the central government of the United States. Where, however, the Federal authorities had interfered they invariably proceeded to screen the patients so that mosquitoes should not be infected by biting them. Then they endeavoured to destroy all the mosquitoes. They had been successful in a measure, notwithstanding that epidemics were in existence before any action was taken. Had they been warned sooner the results would have proved much more beneficent. Doubts might be entertained that the mosquito was the only means of spreading yellow fever, but that was the general, the true explanation, and facts demonstrated that with the destruction of the mosquito the epidemic ceased.

After this speech the discussion seemed to flag and might have ceased altogether but for the energetic intervention of Professor BOYCE. Speaking in French, he insisted on the importance of the whole question, particularly if they included the analogies and possible relationship between yellow fever and dengue and grippe or influenza. On this latter point he would ask Dr. Agramonte of Havana to give his opinion.

Responding, Dr. AGRAMONTE made a lengthy and interesting speech. There had been at Havana a remarkable epidemic of dengue. This disease had so many points in common with yellow fever that he thought that it had come to Havana from New Orleans, where the latter disease prevailed. In June last year the first recorded cases of undoubted dengue occurred in Havana. It spread more especially in the thickly-populated district occupied by foreigners, yet during a recent small epidemic of yellow fever there had been no cases in that quarter. Thus dengue did most mischief where yellow fever had done no harm. In the isolation hospital 70 cases of dengue were carefully studied from the first day until the end of the disease. During the first three days the symptoms in no wise differed from those of yellow fever. Albuminuria was believed to be a clear proof of yellow fever but it was also found in cases of dengue. It was accompanied with great pain in the limbs and back. The symptoms, however, were not perhaps quite so severe as in yellow fever. There were the frontal headache and the aching back, and the temperature was a little higher than was usual in yellow fever. No distinction between the two diseases occurred until the third day; then it would be found that there was no correlation between the pulse and the temperature. There would be a rather low pulse for a comparatively high temperature. Again, there was no eruption with yellow fever, though there might be suffusion of the skin.

Professor BOYCE, again urging a continuation of the discussion, pointed out that in Honduras albuminuria had been found with grippe or influenza and they could not easily distinguish these diseases from yellow fever. Therefore patients suffering from yellow fever had been treated as if they had only grippe or dengue and thus the mosquitoes were given time to bite them and to spread the disease.

Dr. CARLOS M. CORTEZO (Madrid) now gave a totally different turn to the discussion for he ventured to challenge the mosquito theory. He pointed out that in 1876 there had been an epidemic of yellow fever at Madrid. Some soldiers had returned from Cuba. These soldiers were immune; not a single case of fever occurred among them while they were in Madrid. They went and lived in poor quarters of the town, narrow, ill-ventilated streets. Natives of Madrid living in close proximity to these soldiers came to the hospital with fever and unfamiliar symptoms. No member of the hospital staff had ever seen a case of yellow fever but imagined that these might be cases of this disease judging from mere theoretical knowledge. Physicians were immediately sent for who in the colonies had acquired practical experience of the disease and they confirmed the diagnosis. Then it was that the belief that this disease could not travel so far inland was destroyed. Dr. Cortezo thought that the disease would travel wherever it found the necessary soil. The soldiers had brought sacks with them which had not been opened since they left Cuba. The Paris commission that investigated the matter found the state of the spleen, the liver, and other organs the same as in cases of yellow fever. The disease did not spread to other parts of Madrid but remained in those quarters where its development was favoured by insanitary conditions.

Before the discussion thus raised could be taken up a member present rose to urge that petrol should not be used alone but that a mixture, in equal parts, of creoline and petrol was much more effective in killing mosquitoes.

The CHAIRMAN rising pointed out that Dr. Cortezo had asked whether there were other sorts of mosquitoes capable of speading yellow fever and whether soiled linen could infect such mosquitoes? This was a practical question and must be answered. Others thought that the soil in the sewers could infect mosquitoes and that there was danger in dredging operations. He would ask Dr. Agramonte what was his opinion and whether there were other means than the mosquito by which the disease could be spread.

Dr. AGRAMONTE considered that at this late date it was not admissible that the mosquito theory could be challenged. This matter had been definitely settled by the experiments made by the American Commission. These experiments clearly proved that the disease could not be conveyed from one person to another except by the bite of the mosquito. 15 men—15 heroes—had consented to live in a small building where they were absolutely screened off from mosquitoes. In this building were placed the bedding and the clothing worn by yellow fever patients. The 15 men wore the dirty shirts of the yellow fever patients. They slept in beds befouled with the fæcal matter of yellow fever patients and rested their heads on pillows stained with the black vomit. In every way possible they exposed themselves to the contagion, yet not one of the 15 caught the fever. Nor must it be imagined that these men were immune. On the contrary, after the experiment three of the 15 were accidently bitten by mosquitoes and then they did contract the yellow fever. As for sanitation, at Havana the authorities cleared all filth out of the town and the greatest improvements were effected. Still, the yellow fever continued and it only stopped when they had killed the mosquitoes.

An American naval officer whose name was not given out here interposed saying that he was tempted to believe the mosquito theory but that the work done by the American Commission, however brilliant, could not be accepted as an absolute proof. He believed that there were cases of yellow fever in places where the mosquito did not exist.

Dr. **CORTEZO** begged leave to insist on his point. The heroic American experiments seemed to show that there was no danger in soiled linen. From the administrative point of view they must not allow such a conception to gain popular credence. It was, on the contrary, essential to prevent soiled linen being carried about from town to town and country to country. Perhaps mosquitoes could infect themselves by contact with such linen. Perhaps larvæ had been brought over in the dirty baggage and finding in the poorer quarters of Madrid congenial surroundings they developed and infected the Madrid population.

Dr. **ALBARRAN** (Cuba) thought it was dangerous to express any doubt as to the possibility of mischief arising from soiled linen. Commercial men would soon object to the precautions now taken to disinfect linen coming from ports where yellow fever prevailed.

Dr. **CORTEZO** added that he did not doubt the conclusions of the American Commission but those who were protected against the stegomyia were also protected against other varieties of mosquitoes. At Madrid no stegomyia had been found but there were yellow fever and plenty of other sorts of mosquitoes. These seemed to attack poor and dirty people especially. Then they had suffered from yellow fever not only in Madrid but in Andalusia and at Barcelona.

Dr. **FERDINAND CARO** (Madrid) also argued in the same sense. It seemed to be demonstrated by the actual state of science that mosquitoes were the sole cause but they might still have something to learn on the subject, and it would be very unwise to cease to take measures to prevent the importation of soiled linen from infected countries. In Cuba there were places where no yellow fever existed till after the arrival of Spanish soldiers.

Dr. **RAMOS** and Dr. **MAGALHAES**, both from Brazil, spoke and did not seem to attach much importance to the mosquito theory. They asked for information in regard to mosquitoes and paludal fever and what about the ships which had the fever, though there were no mosquitoes on board.

Dr. **AGRAMONTE** replied point by point, speaking this time in Spanish, as those who opposed his views seemed most familiar with that language. He maintained the mosquito theory and denied the possible importation of larvæ as they must have water to live. The mosquito could only infect itself with live blood. It bit only once and the person must be alive. It would not bite a dead body. The mosquitoes had great powers of resistance and were sometimes able to travel with a ship; then they went on shore when a ship reached a port. He thought that it was necessary to disinfect clothing and dirty linen for general purposes but not in so far as yellow fever is concerned.

Dr. **RICARDO JORGE**, President of the Section of Hygiene, said it was a Portuguese medical man who was the first to describe yellow fever which occurred during the siege of Lisbon. In Portugal they had numerous, continuous communications and traffic with South America. The predominating mosquito in Lisbon, Spain, and Italy is the specific mosquito, the stegomyia, so that it was necessary to take measures against the possibility of another invasion. Therefore passengers were watched for seven days. Though the period of incubation was said to be 13 days it was not practicable to continue to watch passengers for so long a time, but all their soiled clothes and linen were disinfected. This had been an established practice before the advent of the modern theory in regard to mosquitoes. Since 1893 no infected or suspected ship had entered Lisbon. In regard to Madrid he did not see how a mosquito could travel so far inland.

Dr. **KOPKE** replied that the eggs might be infected and they could travel any distance. The real question, and this should be experimentally studied, was whether the taint of yellow fever was hereditary among mosquitoes.

Dr. **CORTEZO** explained that in speaking a language with which he was not familiar he had used the word larvæ when he obviously meant eggs. He of course knew the former could not live without water. Perhaps they had in the hereditary and egg theory the explanation of the discrepancies that still exist in the theory of the infected living mosquito. This insect was not ubiquitous; it could not go everywhere, following soldiers from Cuba to Cadiz in a steamer and from Cadiz to Madrid in a railway carriage.

Dr. **AGRAMONTE** replied, admitting the possibility of this latter hypothesis. The egg had not been proved to be offensive or inoffensive. Perhaps the egg might bring forth the pathogenic mosquito and this might explain facts that seem to contradict the mosquito theory.

Thus the debate concluded and the egg supplied the link to bring the contending parties together. The tremendous clatter of voices, however, that broke forth the moment the President left the chair proved with what interest the discussion had been followed and that the somewhat large audience had been worked up to a considerable pitch of excitement.

In the afternoon Professor **RUBERT BOYCE** delivered a lecture on

The Prophylaxis of Yellow Fever,

in which he insisted on many of the points elucidated by the debate described above and the lantern views showed how the patients and the water-butts were screened against the approach of mosquitoes. Of course he insisted on immediate notification and isolation of cases. He then also showed how houses were to be fumigated and otherwise treated so as to kill all the mosquitoes lodged within. Further, he insisted that success was often only partial because the necessary measures were only partially applied. Still great progress had been achieved and thousands of lives had been saved.

Tuberculosis and Chalk and Lime Dust.

On Monday morning in the Section of Hygiene the discussions commenced at 10 o'clock.

Dr. **GASPAR FISAC** read a paper to show that lime and plaster workers were immune from pulmonary tuberculosis. Many provincial medical men had observed this fact. It would seem as if breathing the dust of lime and chalk acted as a preventive, for in the same districts other sections of the population suffered as usual from this disease.

Councillor Dr. G. **ENNES** thought the suggestion made was somewhat empirical. No theory had been advanced. Lime dust might have some action but plaster was quite neutral.

Dr. **LOEFFLER** inquired whether any experiments had been made with animals.

Dr. **FISAC** replied in the negative but said that he had made patients breathe a mixture of lime and plaster pulverised and with good results.

Mont Estoril as a Winter Station.

Dr. D. G. **DALGADO** then read a lengthy paper on the climate of Mont Estoril which is a popular health resort within half an hour's railway ride from Lisbon. It is advertised as the Portuguese Riviera and aims at being largely frequented by those who desire to escape from the rigour of northern winters. After criticising some writers who had not spoken favourably of the climate of Lisbon and its neighbourhood, he proceeded to explain the topographical position. Mont Estoril was in the same latitude as Palermo and 500 kilometres south of Nice. He would compare its climate with that of Catania, Nice, and Biarritz because official statistics existed in regard to those celebrated climatic resorts. He maintained that the climate of Mont Estoril was as uniform as that of Nice and more so than the climate of Biarritz. It lay directly under the influence of the Gulf Stream and in winter was from 1° to 3° C. warmer than its close neighbour Lisbon, the latter town not being so well sheltered and standing a little further inland, while Mont Estoril was immediately on the shores of the Atlantic. Cintra, which was 1775 feet above the sea, helped to shelter Mont Estoril from northerly winds and its average temperature was some four degrees Centigrade lower than that of Lisbon. In regard to humidity this was well within the desirable limit of 70 to 80 degrees of relative humidity. On the whole the winds were stronger in summer than in winter.

uring the winter there were no snow-capped mountains near hand and that was an advantage. The nearest snow was r away in the extreme north of Portugal and there Mont strelle had snow for six months of the year. Medically, e station of Mont Estoril was intermediate between e tonic and stimulating and the tonic-sedative. It would t as a stimulant in cases of debility following upon vers but was, perhaps, too stimulating for certain conditions heart disease. In cases of infantile wasting and of senile bility and in some forms of dyspepsia the climate of Mont storil has produced a tonic and a stimulating effect. As a dative and tonic combined it was useful, said Dr. Dalgado, most cases of asthma, insomnia, and nervous irritability. he equable temperature and comparative dryness were xtremely useful in chronic rheumatism and gout. It was, he aintained, an ideal place for rest. Some cases of consumpion would also be benefited by this climate but their dmission was not allowed. Going into the statistics of emperature, Dr. Dalgado said there had been observations ade at Lisbon for 46 years now and these showed hat during the three winter months, December, January, nd February, the mean temperature was 10 63° C. nd the diurnal fluctuations were for December 6·48°, for anuary 6·55°, and for February 6·11° C. According to he official figures given by Dr. Lalesque of Arcachon he mean temperature of Biarritz was 7·79° and of Nice ·91° C. The diurnal variations for the same three months ere 6·66°, 6 57°, and 10 79° at Biarritz; and 10·31°, 9 69°, nd 10·79° at Nice. For Catania the statistics available apply o only one year and they state that the mean temperature uring the three winter months was 10·08° C. and the diurnal luctuations were 4·05°, 6 05°, and 6·08° for the same three months. Therefore, these figures showed that the climate of Lisbon and Mont Estoril was better than that of Biarritz and Nice and nearly as good as that of Catania in Sicily. These observations also applied to the other seasons of the year; in no month were the fluctuations greater than at Biarritz and Nice. Indeed, the yearly fluctuation was only 11·42° C. at Lisbon, while it was 13·19° C. at Biarritz, 15·61° C. at Nice, and 20·08° C. at Catania. Therefore Lisbon was more equable than any of the other three places. The mean humidity for the three winter months was 79·1, 79·2, and 79·3 at Lisbon; 73 6, 75·7, and 73·3 at Biarritz; 74 7, 75·1, and 74·6 at Nice; and 70·7, 67·0, and 66·0 at Catania. According to Professor Jaccoud the ideal was between 70 and 80. Of course, Mont Estoril would show similar but somewhat better figures than its close neighbour Lisbon. Also, in regard to Mont Estoril it should be remarked that three out of the four winds were sea winds. The northerly winds were sea winds broken by the Cintra mountains and the hill of Mont Estoril itself. These might be described as attenuated sea winds. But the north-west, the west, and the south-west blew directly up on Mont Estoril from the broad expanse of the Atlantic.

Mr. G. JACKSON (Plymouth) asked a few questions as soon as Dr. Dalgado had terminated his paper. Before he could venture to recommend his patients to winter at Mont Estoril it would be necessary to know some details as to the drainage and general sanitation of the place. He had been told that the sewer outfall was exposed at low tide. Then he thought that there was not sufficient hotel accommodation. Also, if tuberculous patients were not admitted that was a serious obstacle and he wanted to know whether such restriction applied to the whole neighbourhood. It was just the sort of place to which to send early cases. Again, were the sewers ventilated and how? Finally, what about the water-supply? He had been told that it was good in one part of Mont Estoril and not in the other.

Dr. DALGADO replied that no place in Portugal was so well drained as Mont Estoril. In regard to ventilation, the hotels had ventilating shafts but whether they were intended for the ventilation of the soil-pipes or of the sewers was not stated. The fact that the whole place sloped towards the sea aided the drainage, said Dr. Dalgado, oblivious of the fact that steep gradients greatly complicate the ventilation problem. As for hotel accommodation, there were only two hotels at present, but there would be more as soon as the demand made itself felt. There had been an increase of accommodation equal to 15 per cent. last year and to 30 per cent. this year. In regard to tuberculous patients, it was illegal for persons suffering from that disease to enter a hotel and the hotel proprietor would be punished for receiving them. No country more early admitted the contagious nature of pulmonary tuberculosis. A house or villa where there had been a case might remain vacant for four or five years; no one would live there. Tuberculous patients must go to sanatoriums built expressly for them.

Dr. Loeffler's New Method of detecting Typhoid Bacilli.

On Tuesday morning, April 24th, the proceedings in the section of hygiene were opened by Dr. LOEFFLER who spoke about a new method of verifying the presence of the typhoid bacillus in liquid matter. These bacilli were rapidly destroyed by the colon and other bacilli that grew at the same time. If, however, they took a little peptonised beef-tea and phosphoric acid and added thereto some malachite green, the colon and other microbes would be killed but the typhoid bacilli would not be destroyed. Should fæcal or such substances be added the typhoid bacilli would be destroyed at 35° C. By adding gelatin, phosphoric acid, and malachite green the typhoid bacilli would multiply in about 10 or 12 hours. If then a small quantity was put into gelatin and care was taken to maintain a temperature of 24° C., the bacilli would grow in different directions forming colonies. Under a magnifier these strange colonies were readily seen. The method works easily and Professor Loeffler expressed the hope that it would be of practical service in the struggle against typhoid fever.

Professor Dr. UHHENBUTH (Greifswald) said a few words in German, to which Professor LOEFFLER replied that the bacilli in question all belonged to a great botanic family but some branches could grow and others could not in malachite green. If to this substance the bacillus coli was added its nature began to change. It would ferment and green would appear on the surface. If the typhoid germ was added no change took place. Therefore, with the aid of this solution they were able to distinguish between different members of the same family.

Miscellaneous Questions.

Dr. RAMIRO ARROYO (Béjar, Portugal) read a paper on the injury resulting from drinking soft waters. He described a locality in Portugal where the water drunk was almost like distilled water and explained that salts had to be added. The section generally agreed as to the injurious effect of waters that contained no salts, such as, for instance, melted snow.

Senhor MELLO DE MATTOS followed on the necessity of teaching hygiene in all the secondary schools and had a good deal to say on what he termed healthy thoughts or the hygiene of the mind.

Dr. OLIVEIRA LAZES (Lisbon) gave some figures taken from private practice to show that syphilis was a predisposing cause of tuberculosis. The effective control of prostitution was a means of checking the growth of tuberculosis. After a few remarks from different members the section adjourned.

The Vital Statistics of Portugal.

There was a good discussion with a numerous attendance at the last meeting of the section held on Wednesday morning (April 25th). First, the President of the Section, Dr. RICARDO JORGE, dealt with the vital statistics of Portugal. Taking the last four periods of five years each, terminating in 1904, the population of Portugal increased from the year 1886 to 1904 from 4,878,978 to 5,556,814 and the average death-rates decreased. They amounted for each of the four periods of five years to an annual average of 22·71, 21·20, 21·29, and 19·98 per 1000 of the population. The birth-rate, however, during the same five-year periods, fell from 33·41 to 30·96, 30·19, and then rose again during the last period of five years to a yearly average of 32·11 per 1000 of the population. The increase of the population was nevertheless due rather to the saving of life than to the augmentation of births. The sudden rise in the birth-rate was set down to the fact that Portugal was recovering from a period of severe financial depression.

This paper was followed by another demographical study by Professor SOBRAL CID of the Coimbra Faculty of Medicine on Infant Mortality in Portugal. It amounts to 137 per 1000 for infants under 12 months of age and it is less than in the other Latin countries, the figures being for Spain 191, for Italy 190, for France 168 and for Belgium 162. But the infant mortality amounts to 222 at Oporto and 189 at Lisbon. The infant mortality at Oporto is in excess of that of the French and Italian towns, excepting the town of Rouen, while that of Lisbon is above that of the European capitals with the exception of Rome and Madrid. Thus the low infant death-rate in Portugal is due to the predominance of the rural population.

Mr. ADOLPHE SMITH attempted to deduce a moral from the facts which had been submitted to the section. First he pointed out that the modern, more humane, and scientific methods of medical inspection and disinfection which had replaced the antique and cruel practice of maritime quarantines had in no wise affected the death-rate. On the contrary, there had been fewer, not more, epidemics. Secondly, the death-rates quoted had shown the indissoluble connexion between hygiene and political economy. When the national finances of Portugal were at an exceptionally low ebb the death-rate reached its highest point. The geographical distribution of a high infantile mortality showed that there was the greatest fatality where the pressure of economic necessity drove mothers from their infants' cradles to attend the machines in large mills and factories. The best sanitation was of little avail against the grip of starvation, and the two preceding Portuguese speakers had rendered a great service by supplying statistics that conclusively demonstrated the intimate connexion between economic pressure and the high general, and more especially the high infantile, rate of mortality.

These arguments were enthusiastically endorsed by the section and its PRESIDENT moved a special vote of thanks to the speakers.

Senhor FRIGUEIROS MARTEL, a civil engineer, submitted some tables on the comparative amount of food consumed in Lisbon and in Paris. These amounted in albumin to 105 407 grammes in Lisbon and to 107 630 in Paris per head per day, an advantage of 2·273 in favour of Paris. For fats or grease the figures were 48·47 grammes for Lisbon and 56·54 for Paris, again an advantage of 8 07 grammes for Paris. Finally, the amount of carbohydrates is 398·99 grammes at Lisbon and 400·10 at Paris, an advantage of only 1·11 for Paris. In Paris also there is a much larger consumption of alcohol, amounting to 9·5 cubic centimetres of pure alcohol per head per day, whilst at Lisbon it is only 1·5 cubic centimetres per head per day. The speaker insisted on the necessity of more abundant food for the manual workers. He was followed by Dr. MASIP who wanted to improve the law on artisans' dwellings, and by Dr. FRANCISCO NAMORADO who advocated vegetarianism.

The Resolutions of the Section of Hygiene.

The President then laid upon the table a large number of papers which should have been read to the section. Their authors, however, were not present; and even if they had responded when their names were called there remained insufficient time to hear them. The President now submitted to the vote the various motions that had been introduced in the section during the course of the debates. First, a motion was adopted recommending the creation of anti-tuberculosis dispensaries to serve as centres of treatment, of education for the prevention of the disease, and for the early detection of cases. Then a motion was approved in favour of compulsory disinfection under the control of State officials in cases of infectious and contagious disease.

Opposition was made to a proposal demanding the convocation of an international conference on plague so as to help to find the methods and the money to combat this disease.

Dr. LOEFFLER said that various nationalities had sent out expeditions to investigate this matter, notably France, Austria, and Russia, and he doubted whether anything more was necessary.

The PRESIDENT replied that though many countries had made national scientific inquiries an international effort was now perhaps necessary.

A DELEGATE objected that after all the principal seat of plague was British India, and what would the British Government say to the proposal?

Mr. SMITH remarked that what the British authorities needed was some means of overcoming the religious prejudices of the native Indian populations which rendered it almost impossible to enforce the means of checking plague which an international commission would probably recommend. The matter then dropped and no motion was put.

A motion was brought forward to protect workers, especially in unwholesome and injurious industries, and an amendment was carried to the effect that legislation for the protection of labour should, so far as possible, be the same in all nations so as to prevent the cause of humanity suffering from the exigencies of competition.

With a vote of thanks to the presiding officials the section then terminated its labours.

LEGAL MEDICINE.

Professor ADRIANO X. LOPES VIEIRA, superintendent of the Morgue at Coimbra, read a paper upon

The Signs of Death by Drowning.

He said that one of his principal objects was to consider whether in the case of a dead body found in water the death was due (1) to asphyxia consequent on the immersion, or (2) to some other cause. Most writers on legal medicine believed that in these circumstances death not due to asphyxia was rare but Professor Vieira, on the contrary, believed it to be relatively frequent. Among the small number of writers who had given attention to the subject of death due to syncope as distinguished from death due to asphyxia he mentioned Dixon Mann and Vivian Poore in England, Strassmann in Berlin, Vibert in Paris, and Witthauss and Becker and Peterson and Haines in North America. After reviewing the classical signs of death from drowning he said that they were not invariably present. Moreover, when death was not due to asphyxia—that was to say, when death took place suddenly so that the person had no time either to draw water into the lungs or to swallow it—the post-mortem appearances which resulted from such drawing of water into the lungs or swallowing it must be absent. At present there was hardly any means of determining whether death in such circumstances was due to respiratory syncope or to cardiac syncope or to meningo encephalic congestion or hæmorrhage. As illustrating his views he described a case in which the body of an infant was found in a well near Coimbra. The parents when brought to trial said that the body was not thrown into the well until after the infant had died a natural death in their arms. The body was that of a healthy infant, there were no signs of strangulation, and the post-mortem appearances did not warrant the making of a more definite statement than that death might have been due to respiratory syncope. The parents were therefore acquitted.

THE GERMAN SURGICAL CONGRESS.[1]

THE German Surgical Association held its annual meeting in Berlin from April 4th to 7th, Professor KÖRTE (Berlin) being in the chair. In his inaugural address the chairman alluded to the ever-increasing number of members and said that in former times the progress of medical science depended mainly on the work accomplished by men holding appointments at the universities, but the great hospitals were now to some extent making their influence felt in this respect. The first day of the meeting was almost exclusively devoted to military surgery, a subject which has undergone great development owing to the recent Russo-Japanese war.

Military Surgery.

Professor ZOEGE VON MANTEUFFEL (Dorpat in Russia) read a paper describing his experiences of first aid on the battlefield. He spoke of the difficulties encountered in establishing dressing stations, difficulties which were due to the very long range of modern projectiles. The dressing stations, and still more the moveable field hospitals, must therefore be placed at a great distance from the scene of the engagement. A large number of transport vehicles was essential and the hospitals should be established as near as possible to the railway stations so as to facilitate the subsequent removal of the wounded. With regard to the nature of the wounds coming under treatment he said that wounds caused by shells were not often seen because they were liable to prove fatal at once. Shrapnel wounds, on the other hand, were rather frequent and their action differed very much in individual cases. Once, for instance, the thorax and the vertebral column were perforated, in another instance 11 bullets were found under the skin of the face. They nearly always tore the man's clothes and drove the pieces into the wound so that the latter became contaminated. Shrapnel was therefore more dangerous than rifle bullets which produced simple wounds of entrance and exit. An explosive action was never observed. Professor von Manteuffel then spoke of the number of cases which must be expected to occur. Generally one-third of the force engaged was put out of action and of these men the fourth part were either dead or missing while the remainder were wounded. In the battle of Mukden 62,000 out of 280,000 combatants were wounded. The surgeons had to work especially at night and on an average from 100 to 120 wounded were dressed by each surgeon. The dressing material which the soldiers carried with them proved to be very useful; the temporary dressing done by the comrades of the wounded was often so good that no change was necessary. In shrapnel wounds and wounds passing directly through the skull the conservative method proved to be the best. In tangential wounds of the skull, however, in which pieces of the man's cap, hair, or splinters of bones were often present, the wound had to be cleansed and the apertures of entrance and exit joined by chiselling away the intervening bridge of bone. Wounds of the trachea and of the œsophagus were treated by conservative methods exclusively and so also were wounds of the lungs, the head, and the vertebral column The patients suffering from wounds of the vertebræ often died from cystitis caused by the use of dirty catheters during transport Abdominal wounds were only to be dressed externally and no operations were to be performed in the dressing station. In wounds of the extremities plaster bandages were to be applied and if an amputation became necessary the stump was not to be sutured.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

Dr. Schäfer of the German Red Cross Society said that the number of men put out of action was on an average 16 per cent., but was sometimes 21 per cent. In some regiments which took part in several battles the proportion of losses rose to 95 per cent. Of 100 wounded on an average 44 were put out of action, the proportion between deaths and wounded being 1 to 5. Of the wounded only 2 per cent. died; the proportion of slight wounds was therefore considerable and 45 per cent. of them were able to take part again in the war. In some instances men who were wounded three, four, or even five times returned to the ranks—a splendid testimonial to the bravery of the Russian soldier. Dr. Schäfer concluded by saying that the urgent question to be solved in future wars would be the transport of the wounded.

Dr. Goldammer (Hamburg) read a paper on the War in German South Africa. The circumstances of this war differed from those of the Russo-Japanese war because the number of patients was relatively small, but the great distances which separated the combatants from the field hospitals and the base hospitals made the transport of the wounded very difficult. Disinfection of wounds was impossible owing to the deficiency of water-supply and dry dressing was therefore the method used in the majority of cases. When there was no urgent indication for an operation a piece of iodoform gauze was put on the wound and fixed by adhesive plaster. The gauze soon became dry, the edges of the wound adhered to one another, and when the patient was being removed a gauze bandage could be applied, for with compound fractures the application of a splint was essential for transport.

Dr. Bornhaupt (Riga) presented a report on wounds of the joints. He said that his hospital was at the railway-station in Harbin, six days' journey from the theatre of war, and that he had treated 167 cases, being 78 per cent. of all the wounds in question; wounds of the knee were the most frequent, then came those of the ankle and the shoulder. Suppuration occurred most frequently in the ankle, whilst simple wounds of the knee-joint usually healed without reaction. Of non-suppurating joints 93 per cent. healed without reaction and in the case of the knee-joint even 100 per cent. Patients not suffering from reaction were sometimes able to get up on the fifth day. In 23·6 per cent. of the cases operations were performed chiefly on account of suppuration, shell wounds of the hip-joint and the knee showing the greatest mortality.

Dr. Brentano (Berlin) read a paper on wounds of the blood-vessels. He said that primary operations on blood-vessels were impossible on the battlefield and could only be performed in the field hospital. Aneurysms were of frequent occurrence and had to be dealt with subsequently by operation. He showed a specimen consisting of an aorta perforated by a bullet; notwithstanding the serious nature of the injury the patient lived for a whole day.

Dr. Colmers (Leipsic) read a paper on compound fractures caused by artillery or rifle fire. He recommended that no attempts at disinfection should be made but that occlusive dressings and plaster bandages should be applied.

Dr. Henle (Breslau) and Dr. Hildebrandt (Berlin) spoke of injuries of the nerves and of the skull.

Dr. von Oettingen (Berlin) remarked that projectiles coming from a distance of about 300 metres made small entrance and exit wounds but there might at the same time be severe lacerations of the viscera. As even in extensive injuries adhesions might eventually occur the treatment must be strictly conservative, prolapses and incarcerations of course excepted.

In the discussion Dr. von Wreden (St. Petersburg), a representative of the Russian Army Medical Corps, opposed the opinion that the modern rifle was more humane than the older form. He said that the new rifle was by far the more deadly of the two.

Operations on the Thyroid Gland.

Professor Kocher (Berne) read a report on the third series of 1000 operations for extirpation of the thyroid gland performed by him, the death-rate being 0·1 per cent. These cases included 35 of malignant disease, eight of inflammation of the gland, 52 of Graves's disease, and 904 of ordinary excision. The operation itself was not dangerous provided that the heart was healthy; in Graves's disease the operation must be performed as early as possible. Careful ligature of the blood-vessels with sterilised silk was essential. The internal administration of iodine or of thyroid preparations was useless.

Operations for Gastric Ulcer.

Professor Krönlein (Zürich) said that the results of internal treatment in this condition were far from being satisfactory. At the meeting of the German Surgical Congress in 1897 Professor Leube had stated that internal and dietetic treatment had been unsuccessful in 7·9 per cent, death occurring in 2·4 per cent. only. These numbers were, in Professor Krönlein's opinion, misleading because they took into account only the immediate results without regarding the sequelæ Other statistics published by Dr. Warren of Boston and Dr. Schulz of Breslau showed that internal treatment was unsuccessful in about 25 per cent. of the cases and that there were from 10 to 13 per cent. of deaths. Although the cases coming under surgical treatment were much graver, because in a good many of them internal treatment had previously been used without success, the ultimate results were that in 85 per cent. a complete and permanent recovery was obtained. The death-rate was from 8 to 10 per cent.; on an average 3 per cent. died afterwards, especially from cancer. The object of the operation was to produce a cicatrisation of the ulcer and a restitution of the normal function of the stomach. Total resection of an ulcer was not often practicable because the ulcers were not infrequently multiple. Gastro-enterostomy, moreover, by creating a new way between the stomach and the intestines, and so removing the ingesta quickly, prevented them from decomposing. Gastro-enterostomy should, therefore, be the normal operation and should be preferred to gastrectomy. The indications for the operation were the failure of internal treatment, stenosis of the pylorus, gastrectasis, and repeated hæmorrhage. In profuse hæmorrhage the operation should be postponed until the patient had somewhat recovered.

Professor Rydygier (Lemberg) said that resection of the ulcers was preferable to gastro-enterostomy because the condition of the stomach became normal. Moreover, resection prevented the formation of peptic ulcers of the stomach and removed callous edges. He said that he had lost two of his cases of gastro-enterostomy from profuse hæmorrhage and two cases from perforation and he suggested that these complications were probably not infrequent. By resection of the ulcers the development of cancer was avoided.

Dr. Kümmell (Hamburg) said that ulcers were not liable to become cancerous when the irritation caused by the ingesta had been removed by gastro-enterostomy. The great difficulty and the long duration of resection made this operation dangerous, especially in weak patients.

Professor Körte (Berlin) reported 36 perforations, of which 24 occurred into the abdominal cavity, while 12 were subphrenic. After resection he had known ulcers to recur on two occasions and hæmorrhage once. His operative results had recently become better because he operated at an earlier stage.

(To be continued.)

MEDICINE AND THE LAW.

An Unfounded Charge Dismissed.

THE extraordinary prosecution brought against Dr. Alfred Ernest Jones by two mentally defective little girls whom he had examined as one of the medical officers of the London County Council with a view to provision for their suitable education has been dismissed. The result was a foregone conclusion so far as ultimate acquittal was concerned, but Dr. Jones is to be congratulated upon having had the preliminary stages of such an accusation heard before a metropolitan police magistrate whose wide experience in criminal charges of all kinds enabled him to take with confidence a course which members of other benches less used to exercise their discretion vigorously and promptly might have hesitated to adopt. The charge was one which on the face of it was either entirely without foundation, or one which, if the facts were proved, would have shown that a lunatic asylum must be the only fit place for the accused. Dr. J. Kerr made inquiry and saw that no reliance could be placed on the preposterous statements of the children, but the parents, not satisfied with his conclusion that there was nothing to justify the matter being taken further, with more zeal on behalf of their offspring than discretion or charity towards Dr. Jones, insisted upon the police intervening. The case has since had a fair and prolonged hearing in open court and if the evidence led the magistrate to the conclusion that no jury would dream of convicting upon it, it must also have brought home to all the most insidious perils that a medical man is called upon to undergo in the pursuit of his profession. He cannot always have a third person present, even whenever he may be called upon to make inquiries and examinations likely to suggest hideous accusations of immorality to the diseased mind of his patient. In such a case as that now commented upon he probably would not think of doing so. Now, however, with this recent experience to recommend every precaution possible, it may be pointed out that in many instances where the interview is one conducted in an official capacity it will usually be easy to secure the presence of a matron or a nurse. Dr. Jones should be the recipient of warm congratulation, followed by prompt oblivion that any such charge ever hung over his head.

A Quack Medicine Company and its Advertisements.

In an action tried recently by Mr. Justice Lawrance in the King's Bench Division a firm of advertising agents sued "The Kouvo Manufacturing Company" for £126 in connexion with the insertion of advertisements in provincial newspapers. The subject of the advertisements was a quack remedy for rheumatism, the orders for their insertion being given by a Mr. Cowood, manager of the company at Leeds, cheques paid on account being signed by a Mr. Henry Watson. When, however, the advertisement agents asked for a settlement of the balance owed to them they were told that there was no such company as "The Kouvo Manufacturing Company" and the defence alleged that the business was that of another company entitled the Danish Siberian Produce Company, which was in liquidation, Mr. Watson being apparently the liquidator. With regard to this gentleman Mr. Justice Lawrance observed that he had been reading the affidavit made by him and that anything more misleading he had never seen, adding that he should have liked to see Mr. Watson in the witness-box, as in the document before the court there was nothing to show that he had had previous knowledge of the transactions referred to or was other than a liquidator brought in as such from outside. His lordship's observations on the conduct of the defendants in the matter before him were of an extremely severe character; he characterised it as a swindle and after the defendants' counsel had declined to go further with the defence before his lordship he gave judgment for the plaintiffs with costs, ordering also that the defendants should declare who was responsible for payment to the plaintiffs. He refused a stay of execution and declined to give leave to appeal against the order mentioned. As an appeal, nevertheless, may be contemplated with regard to the case itself further comment upon it would be premature. We may say, however, that we should in the circumstances be prepared to express no sympathy either with the plaintiffs or with the defendants. The advertisements of quack medicine vendors in general are concocted with a view to selling articles which do not possess the qualities assigned to them and which have an intrinsic value immeasurably below the price at which they are sold. The business may be a paying one—in many instances we have no doubt that it is so—but advertisement agents who traffic with the purveyors of such rubbish, relying upon their credit, are not unlikely to find themselves losers by the transaction.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on May 10th, Mr. JOHN TWEEDY, the President, being in the chair.

Surgeon-General Arthur Mudge Branfoot, C.I.E., and Director-General Herbert Mackay Ellis, R.N., were introduced and after signing the by-laws and making the required declaration were admitted Fellows of the College.

Mr. Reginald Cheyne Elmslie was introduced and the President handed to him a cheque for the amount of the Jacksonian prize for the year 1905, together with a document declaratory of the award.

Mr. Walter Burford Johnson was introduced and signed the Roll of Begley Students and the President handed to him a cheque for the first year's payment in respect of his studentship and a document certifying his appointment as Begley student.

It was resolved to issue Diplomas of Membership to 102 successful candidates.

A letter was read from Dr. J. Ward Cousins presenting his report as the representative of the College on the Central Midwives Board. The report showed that during the past year 20 meetings of the Board have been held, that 18 examiners for London and 16 for the provinces have been appointed, and that three examinations have taken place. In all there have been 1256 candidates, of whom 956 have passed and 300 have been rejected. The Board has recognised 63 training schools and the number of teachers appointed amounts to 128. Up to April 1st, 1906, 23,166 women have been admitted to the Midwives Roll; of this number 22,210 were certified under the provision for existing midwives in *bonâ-fide* practice prior to April 1st, 1905, and 956 have passed the examination of the Central Midwives Board. The disciplinary proceedings of the Board have resulted in the removal of 14 midwives from the Roll and seven others have been severely censured. The county councils and the county borough councils of England and Wales are only slowly carrying out the provisions of the Midwives Act of 1902. 33 of the county councils have not yet appointed a medical executive officer. The councils of 23 counties have appointed inspectors of midwives, and in eight English and five Welsh counties the Act is stated to be administered wholly by the local supervising authority without the assistance of any medical officer or inspector. In a few counties the duties of inspector are performed by the county or district medical officer. 42 of the county borough councils have not yet decided to appoint an inspector of midwives. In 28 county boroughs the medical officer of health or a female inspector has been selected to discharge these important duties. At Manchester a qualified female practitioner is the local inspector and at Liverpool the ex-matron of the lying-in hospital has been appointed to the office. Dr. Cousins also pointed out that evidence of elementary education of candidates should be required of all pupil-midwives before the commencement of their training; and concluded his interesting report as follows: "I regret to state that Liverpool and Cardiff are the only centres where the councils have made any arrangement for the payment of medical men summoned to assist midwives in cases of difficulty and danger. By the Act the profession is practically responsible for the safety of the poor parturient women of the country, and yet it contains no provision to secure payment for professional services."

The best thanks of the Council were given to Dr. Cousins for his services as the representative of the College.

It was resolved to suspend the rule relating to the meetings of Fellows (the effect of this is that the annual meeting of Fellows in July will not be held this year).

It was resolved to hold a Fellows' subscription dinner on Thursday, July 5th, the day of the Council election.

A letter was read from Professor Carl Olaf Jensen thanking the Council for the recognition accorded by it to his work in the field of cancer research by the award of the

Walker prize and expressing regret that it would be impossible for him to visit England and to express his thanks in person.

The PRESIDENT reported that after the receipt of Professor Jensen's letter he had communicated with the Honourable Sir Alan Johnstone, K.C.V.O., British Minister at Copenhagen, and that his Excellency had kindly undertaken to present the Walker prize to Professor Jensen on behalf of the Council.

A letter was read from Dr. Just Lucas-Championnière thanking the Council for the honour which it had conferred upon him in making him an Honorary Fellow.

A letter was read from Lieutenant-Colonel Sir R. Havelock H. R. Charles, I.M.S., K.C.V.O., thanking the Council for awarding to him the honorary medal of the College and expressing his high appreciation of the honour conferred upon him.

The PRESIDENT reported that in pursuance of the resolution adopted by the Council at its last meeting he had appointed Dr. H. Timbrell Bulstrode a representative of the College, in association with Mr. Edmund Owen, on the general organising committee for the Second International Congress on School Hygiene.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 6676 births and 4698 deaths were registered during the week ending May 12th. The annual rate of mortality in these towns, which had been equal to 17·3, 16·7, and 16·3 in the three preceding weeks, further declined last week to 15·5. The mean death-rate in these towns during the first six weeks of the current quarter was 16·7 per 1000; in London it was 17·0. The lowest death-rates during last week in the 76 towns were 6·5 in King's Norton, 6·7 in Northampton, 6·9 in Walthamstow, 7·2 in Hornsey, and 7·4 in Handsworth; the rates in the other towns ranged upwards to 20·5 in Liverpool and in Salford, 21·0 in Bradford, 21·3 in Bury and in Rotherham, and 23·1 in Barrow-in-Furness. The 4698 deaths in the 76 towns showed a further decline of 256 from the numbers in recent weeks and included 484 which were referred to the principal infectious diseases, against 519, 484, and 482 in the three preceding weeks; of these, 218 resulted from measles, 123 from whooping-cough, 47 from scarlet fever, 37 from diphtheria, 42 from diarrhœa, 17 from "fever" (principally enteric), and not one from small-pox. The deaths from these diseases were equal to an annual rate of 1·6 per 1000 in the 76 towns and the rate was the same in London. No death from any of these infectious diseases was registered last week in Nottingham, St. Helens, Bury, Rochdale, Hastings, or in six other of the large towns, whereas they caused the highest death-rates in Manchester, Salford, Liverpool, Bradford, Yarmouth, and Burnley. The highest death-rates from measles occurred in Liverpool, Bradford, Yarmouth, and Burnley; from whooping-cough in Reading, Bootle, Huddersfield, Coventry, and Warrington; from scarlet fever in Sheffield and Rotherham; and from diphtheria in Hornsey and York. The 42 deaths attributed to diarrhœa in the 76 towns showed a slight increase, while those referred to "fever" showed a decline. Only one case of small-pox remained under treatment in the Metropolitan Asylums Hospitals at the end of last week, and no new case was admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, May 12th, was 2378, showing a further increase upon the numbers in recent weeks; the 338 new cases admitted during the week were fewer by 19 than the number in the previous week. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had been 399, 351, and 309 in the three preceding weeks, further declined to 273 in the week under notice, but exceeded by 34 the corrected average for the corresponding week in the four preceding years, 1902–05. The causes of 56, or less than 1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Leeds, Sunderland, Newcastle-upon-Tyne, and in 47 smaller towns. The proportion of uncertified deaths showed, however, an excess in Birmingham, Liverpool, Warrington, Bradford, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·4 and 18·0 per 1000 in the two preceding weeks, rose again to 18·8 in the week ending May 12th, and exceeded by 3·3 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·2 and 16·5 in Paisley and Aberdeen to 19·9 in Glasgow and in Greenock, 20·2 in Dundee, and 22·7 in Perth. The 645 deaths in these eight towns included 26 which were referred to measles, 16 to whooping-cough, 15 to diarrhœa, seven to diphtheria, two to scarlet fever, one to "fever" (probably enteric), and not one to small-pox, although a death in Edinburgh was attributed to chicken-pox. In all, 67 deaths resulted from these principal infectious diseases, a decline of three from the number in the previous week. These 67 deaths were equal to an annual rate of 2·0 per 1000, which exceeded by 0·4 the mean rate during the week from the same diseases in the 76 large English towns. The 26 fatal cases of measles in the Scotch towns showed a further increase upon the numbers returned in recent weeks and included nine in Glasgow, eight in Edinburgh, six in Leith, and three in Dundee. The 16 deaths from whooping-cough were fewer by five than the number in the previous week; 12 occurred in Glasgow and two in Edinburgh. Of the 15 deaths attributed to diarrhœa, an increase of two upon the number in the previous week, nine were returned in Glasgow and two in Paisley. The seven deaths from diphtheria included three in Glasgow and two in Edinburgh; the two fatal cases of scarlet fever occurred in Edinburgh; and the death from "fever" in Glasgow. The deaths referred in the eight towns to diseases of the respiratory organs, including pneumonia, which had been 135 and 138 in the two preceding weeks, declined last week to 109 but exceeded by two the number referred to these diseases in the corresponding week of last year. The causes of 19, or nearly 3 per cent., of the deaths registered in the eight towns during the week were not certified, the proportion of uncertified deaths in the 76 large English towns during the same week being less than 1 per cent.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·1, 22·4, and 25·9 in the three preceding weeks, declined to 21·7 in the week ending May 12th. During the first six weeks of the current quarter the death-rate in the city averaged 23·8 per 1000, against 17·0 in London and 18·6 in Edinburgh. The 158 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 30 from the number returned in the previous week; they included eight which were referred to the principal infectious diseases, against ten and two in the two preceding weeks. The eight deaths from these infectious diseases included three fatal cases of "fever" (probably enteric), three of diarrhœa, and one each of measles and whooping-cough; they were equal to an annual rate of 1·1 per 1000, the rate from these diseases in the same week being 1·6 in London and 2·4 in Edinburgh. The 158 deaths in Dublin last week included 26 of infants under one year of age and 57 of persons aged upwards of 60 years; the deaths of infants exceeded the number in any recent week, while those of elderly persons were fewer by two than the number in the previous week. Three inquest cases and one death from violence were registered; and 67, or 42 per cent., of the deaths occurred in public institutions. The causes of three, or nearly 2 per cent., of the deaths were not certified either by a registered medical practitioner or by a coroner.

VITAL STATISTICS OF LONDON DURING APRIL, 1906.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·9 per 1000 of the population, estimated at 4,721,217 persons in the middle of the year. In the three preceding months the rates had been 6·7, 6·4, and 5·7 per 1000 respectively. The lowest rates last month were recorded in the City of Westminster, Islington,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1906.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1906.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,721,217	1	1201	537	—	73	—	24	292	—	2128	5·9	—	293	40	52	158	—	9	1	57	610	1·7	6170	17·0	114
West Districts.																										
Paddington	148,913	—	53	3	—	2	—	1	11	—	70	6·1	—	2	5	1	2	—	—	—	2	12	1·1	164	14·4	92
Kensington	180,952	—	47	22	—	3	—	2	7	—	81	5·8	—	17	—	2	2	—	1	—	—	22	1·6	233	16·8	116
Hammersmith	120,679	—	30	30	—	2	—	—	13	—	75	8·1	—	6	5	1	2	—	—	—	—	14	1·5	142	15·3	114
Fulham	161,965	—	36	25	—	8	—	3	11	—	83	6·7	—	10	1	4	2	—	1	—	2	20	1·6	174	14·0	98
Chelsea	74,672	—	22	14	—	—	—	2	3	—	41	7·2	—	30	2	3	6	—	—	—	1	42	7·3	151	26·4	190
City of Westminster	173,905	—	22	8	—	3	—	—	3	—	36	2·7	—	—	1	—	5	—	—	1	2	9	0·7	202	15·1	106
North Districts.																										
St. Marylebone	128,580	—	25	12	—	2	—	—	9	—	48	4·9	—	3	—	1	—	—	—	—	—	4	0·4	185	18·8	63
Hampstead	89,633	—	34	5	—	2	—	—	3	—	44	6·4	—	2	—	—	—	—	—	—	—	2	0·3	90	13·1	73
St. Pancras	236,455	—	54	29	—	6	—	—	13	—	102	5·6	—	20	3	3	5	—	1	—	1	33	1·8	299	16·5	96
Islington	344,937	—	70	27	—	5	—	1	12	—	115	4·3	—	37	1	4	6	—	1	—	2	51	1·9	417	15·8	106
Stoke Newington	53,217	—	8	9	—	—	—	—	2	—	19	4·7	—	4	—	—	2	—	—	—	1	7	1·7	71	17·4	254
Hackney	230,721	—	55	30	—	3	—	1	24	—	113	6·4	—	20	2	2	3	—	1	—	3	31	1·8	268	15·1	131
Central Districts.																										
Holborn	55,805	—	17	4	—	1	—	—	1	—	23	5·4	—	4	2	1	1	—	—	—	1	9	2·1	85	19·9	82
Finsbury	97,468	—	17	9	—	1	—	1	11	—	39	5·2	—	29	—	—	7	—	1	—	—	37	4·9	166	22·2	117
City of London	21,367	—	11	1	—	1	—	—	—	—	13	7·9	—	1	—	—	1	—	—	—	—	2	1·2	32	19·5	79
East Districts.																										
Shoreditch	116,108	—	27	9	—	—	—	—	5	—	41	4·6	—	14	1	1	11	—	—	—	2	29	3·3	207	23·2	167
Bethnal Green	130,609	—	33	18	—	2	—	—	16	—	69	6·9	—	4	1	2	6	—	—	—	1	14	1·4	202	20·2	107
pney	307,176	—	77	33	—	4	—	3	29	—	146	6·2	—	11	3	2	9	—	—	—	10	35	1·5	431	18·3	121
plar	170,673	1	25	12	—	1	—	1	10	—	50	3·8	—	4	—	—	9	—	—	—	—	13	1·0	241	18·4	110
South Districts.																										
uthwark	209,143	—	55	24	—	1	—	—	24	—	104	6·5	—	11	2	1	6	—	—	—	4	24	1·5	344	21·4	130
ermondsey	128,629	—	65	24	—	2	—	—	6	—	97	9·8	—	20	4	4	7	—	—	—	2	37	3·7	216	21·9	117
ambeth	315,774	—	83	35	—	6	—	1	16	—	141	6·8	—	5	2	3	8	—	1	—	3	22	0·9	391	16·1	109
attersea	179,622	—	63	12	—	2	—	2	11	—	90	6·5	—	—	—	3	8	—	1	—	5	17	1·2	216	15·7	102
andsworth	273,381	—	76	46	—	9	—	3	17	—	151	7·2	—	5	1	6	5	—	1	—	3	21	1·0	281	13·4	94
amberwell	274,132	—	55	25	—	2	—	1	8	—	91	4·3	—	14	1	2	8	—	—	—	5	30	1·4	369	17·5	144
eptford	116,495	—	41	7	—	3	—	1	9	—	61	6·9	—	6	1	—	18	—	—	—	4	29	3·3	174	19·6	145
reenwich	105,350	—	17	21	—	—	—	—	5	—	43	5·3	—	6	1	3	12	—	—	—	1	23	2·8	141	17·4	102
ewisham	148,463	—	49	17	—	1	—	1	7	—	75	6·6	—	4	1	3	3	—	—	—	1	12	1·1	145	12·7	99
oolwich	127,345	—	33	26	—	—	—	—	6	—	65	6·7	—	4	—	—	4	—	—	—	1	9	0·9	133	13·6	118
ort of London	—	—	1	—	—	1	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

Shoreditch, Poplar, and Camberwell; and the highest rates in Hammersmith, Chelsea, the City of London, Bethnal Green, Bermondsey, Wandsworth, and Deptford. One case of small-pox was notified last month, against six and seven in the two preceding months; this case belonged to Poplar. Six small-pox patients remained under treatment in the Metropolitan Asylums hospitals at the end of last month, against five and ten at the end of the two preceding months. The prevalence of scarlet fever showed a considerable increase over that recorded in the preceding month; the greatest proportional prevalence of this disease occurred in Paddington, Hampstead, the City of London, Bermondsey, Battersea, and Deptford. The Metropolitan Asylums hospitals contained 2192 scarlet fever patients at the end of last month, against 2866, 2580, and 2353 at the end of the three preceding months; the weekly admissions averaged 282, against 296, 271, and 238 in the three preceding months. Diphtheria was rather less prevalent in April than it had been in the preceding month; among the various metropolitan boroughs this disease showed the greatest proportional prevalence in Hammersmith, Chelsea, Stoke Newington, Bermondsey, Wandsworth, Greenwich, and Woolwich. The number of diphtheria patients in the Metropolitan Asylums hospitals, which had been 867, 926, and 924 at the end of the three preceding months, had further declined to 860 at the end of last month; the weekly admissions averaged 103, against 121, 116, and 111 in the three preceding months. The prevalence of enteric fever showed a slight decline from that recorded in the preceding month; this disease was proportionally most prevalent in Fulham, St. Pancras, the City of London, Wandsworth, and Deptford. There were 56 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 95, 79, and 65 at the end of the three preceding months; the weekly admissions averaged 11 last month and in each of the two preceding months. Erysipelas was proportionally most prevalent in Hammersmith, Hackney, Finsbury, Bethnal Green, and Shoreditch. The 24 cases of puerperal fever notified during the month included three each in Fulham, Stepney, and Wandsworth, and two each in Kensington, Chelsea, and Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending April 28th 6170 deaths of persons belonging to London were registered, equal to an annual rate of 17·0 per 1000; in the three preceding months the rates had been 16·0, 15·9, and 16·2 per 1000. The death-rates last month ranged from 12·7 in Lewisham, 13·1 in Hampstead, 13·4 in Wandsworth, 13·6 in Woolwich, 14·0 in Fulham, and 14·4 in Paddington; the highest rates were 19·9 in Holborn, 20·2 in Bethnal Green, 21·4 in Southwark, 21·9 in Bermondsey, 22·2 in Finsbury, 23·2 in Shoreditch, and 26·4 in Chelsea. The 6170 deaths from all causes in London last month included 610 which were referred to the principal infectious diseases; of these, 293 resulted from measles, 40 from scarlet fever, 52 from diphtheria, 158 from whooping-cough, nine from enteric fever, one from ill-defined pyrexia, and 57 from diarrhœa. The lowest death-rates from these diseases were recorded in the City of Westminster, St. Marylebone, Hampstead, Lambeth, and Woolwich; and the highest rates in Chelsea, Holborn, Finsbury, Shoreditch, Bermondsey, Deptford, and Greenwich. The 293 deaths from measles were 40 in excess of the corrected average number in the corresponding periods of the four preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Kensington, Chelsea, Islington, Hackney, Finsbury, Shoreditch, and Bermondsey. The 40 fatal cases of scarlet fever were slightly in excess of the corrected average number; the greatest proportional mortality from this disease occurred in Paddington, Hammersmith, Chelsea, Holborn, and Bermondsey. The 52 deaths from diphtheria were 13 below the average for the corresponding periods of the four preceding years; this disease was proportionally most fatal in Fulham, Chelsea, Bermondsey, Wandsworth, Greenwich, and Lewisham. The 158 fatal cases of whooping-cough were 33 below the corrected average number; among the various metropolitan boroughs the mortality from this disease was proportionally greatest in Chelsea, Finsbury, Shoreditch, Poplar, Bermondsey, Deptford, and Greenwich. The ten deaths referred to "fever" showed a decline of six from the corrected average number: one fatal case of ill-defined pyrexia was recorded in the City of Westminster, and one of enteric fever in each of the following boroughs: Kensington, Fulham, St. Pancras, Islington, Hackney, Finsbury, Lambeth, Battersea, and Wandsworth. The 57 fatal cases of diarrhœa were slightly below the average number in the corresponding periods of the four preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Shoreditch, Stepney, Battersea, Southwark, Camberwell, and Deptford. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 10 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 114 per 1000. The lowest rates of infant mortality were recorded in Paddington, St. Marylebone, Hampstead, Holborn, the City of London, and Wandsworth; and the highest rates in Chelsea, Stoke Newington, Hackney, Shoreditch, Southwark, Camberwell, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon E. J. Morley to the *Ganges*, for Shotley Barracks. Surgeons: J. R. A. Clark-Hall to the *Robin*; J. P. H. Greenhalgh to the *Moorhen*; and R. H. St. B. E. Hughes to the *Vernon* for the *Niger*.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenants to be Captains (dated March 1st, 1906):—Arthur B. Smallman, Wentworth F. Tyndale, C.M.G., Percival Davidson, D.S.O., William F. Ellis, John McKenzie, Norman D. Walker, Arthur H. Hayes, Henry J. Crossley, Ralph B. Ainsworth, Charles A. J. A. Balck, Reginald Storrs, Raymond L. V. Foster, Frederick A. H. Clarke, George A. K. H. Reed, John W. S. Seccombe, John M. H. Conway, Sydney M. W. Meadows, Herbert V. Bagshawe, Dudley S. Skelton, Charles V. B. Stanley, Hugh G. S. Webb, William W. Browne, Richard Rutherford, William D. C. Kelly, Norman E. J. Harding, and Robert J. Franklin.

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service and admissions to the Service:—To be Colonel: *Bombay:* Lieutenant-Colonel (temporary Colonel) William George Hume Henderson (dated Nov. 11th, 1905). Captains to be Majors: *Bengal:* Cecil Robert Stephens, Leonard Rogers, and Gordon Travers Birdwood (dated Jan. 30th, 1905); Cecil Charles Stuart Barry, Ernest Alan Robert Newman, J. Gould, Reginald George Turner, James Davidson, and John Mulvany (dated July 29th, 1905); George Yeates Cobb Hunter (dated Nov. 17th, 1905). *Madras:* Eric Harding Sharman and Thomas Howard Foulkes (dated Jan. 30th, 1905); Thomas Stodart, Bhola Nauth, Alfred Eugène Berry, and Herbert St. John Fraser (dated July 29th, 1905). *Bombay:* Hugh Bennett (dated July 24th, 1905). The promotion of Major P. P. Kilkelly is antedated from July 29th, 1905, to Jan 30th, 1905. Lieutenants to be Captains: William Samuel Jagoe Shaw, Charles Seymour Parker, Harold Holkar Broome, Frederick Norman White, Charles Gibbons Seymour, Davis Heron, Thomas Corrie Rutherfoord, Henry Crewe Keates, Leethem Reynolds, Ernest Charles Taylor, Richard Arthur Needham, Dwarka Prasad Goil, James Kirkwood, and Alfred Whitmore (dated Jan. 31st, 1906). To be Lieutenants: Carl Henry Reinhold, Arthur Falconer Hayden, Broderick Edward Middleton Newland, Lewis Albert Hodgkinson Lack, Edgar John Cecil McDonald, Kenneth William Mackenzie, William Dundas Wright, John Francis Boyd, Vernon Northwood Whitamore, John Catto, Narindra Singh Sodhi, William Jackson Powell, and William Cowan Gray (dated Sept 1st, 1905).

The King has also approved of the retirement from the service of the undermentioned officer: Lieutenant-Colonel Shambhu Chandra Nandi (dated Dec. 6th, 1905).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain and Honorary Major (Honorary Captain in the

Army) A. H. Benson resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated May 12th, 1906).

IMPERIAL YEOMANRY.

Herts: Surgeon-Lieutenant F. E. Fremantle to be Surgeon-Captain (dated May 12th, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Argyll and Bute: John Stewart to be Surgeon-Lieutenant (dated May 12th, 1906). 3rd Lancashire: Surgeon-Major M. J. Fox is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated May 12th, 1906). 1st Sussex: Surgeon-Lieutenant H. H. E. Scatliff resigns his commission (dated May 12th, 1906); Harold Harris Elborough Scatliff (late Surgeon-Lieutenant) to be Second Lieutenant (dated May 12th, 1906).

Royal Engineers (Volunteers): 1st Sussex: Antony Alexander Martin to be Surgeon-Lieutenant (dated April 10th, 1906.

Rifles: 3rd Volunteer Battalion the Cheshire Regiment: Surgeon-Major T. Fennell is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated May 12th, 1906). 1st Volunteer Battalion, the Durham Light Infantry: Surgeon-Lieutenant A. J. Dale resigns his commission (dated April 9th, 1906). A. J. Dale (late Surgeon-Lieutenant) to be Lieutenant (dated April 9th, 1906). 5th (Glasgow Highland) Volunteer Battalion, the Highland Light Infantry: Surgeon-Major G. Bell Todd to be Surgeon-Lieutenant-Colonel (dated May 12th, 1906). 1st (Ross Highland) Volunteer Battalion, Seaforth Highlanders (Ross-shire Buffs, The Duke of Albany's): Surgeon-Lieutenant-Colonel J. Adam is borne as supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Seaforth and Cameron Volunteer Infantry Brigade (dated May 12th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

North-East Lancashire Bearer Company: Captain T. Holt to be Major (dated May 12th, 1906.)

WEST AFRICAN MEDICAL STAFF.

The following appointments, dated May 5th, have been made to the West African Medical Staff:—Dr. P. H. MacDonald (Southern Nigeria), Dr. B. Moiser (Northern Nigeria), Dr. W. Rogers (Southern Nigeria), Dr. G. J. Pirie (Northern Nigeria), Mr. A. G. Eldred (Gold Coast), and Dr. H. Kramer (Gold Coast).

Mr. T. E. Rice, L.S.A., senior medical officer in Southern Nigeria, has been transferred to the Gold Coast, vice Mr. K. F. T. Buée, deceased.

Mr. G. J. Rutherford, M.R.C.S. Eng., L.R.C.P. Lond., medical officer in the Gold Coast, to be senior medical officer, Southern Nigeria, vice Mr. T. E. Rice, transferred.

DEATHS IN THE SERVICES.

Surgeon-General Charles Sibthorpe, C.B., I.M.S. (retired), on May 4th, aged 58 years. He joined the Indian Medical Service as assistant surgeon in 1870 and retired in 1900. He served in the Afghan War, 1879–80, with the Peshawar Valley Field Force (medal) and also in the Burmese Expedition, 1885–86, as staff-surgeon to the general officer commanding the expedition and later in medical charge of the headquarters Staff (mentioned in despatches, medal with clasp, and promoted to the rank of brigade-surgeon).

THE ROYAL INDIAN TOUR HONOURS.

The *London Gazette* officially announces that Lieutenant-Colonel Havelock H. R. Charles, I.M.S. (Bengal), professor of surgery at the Medical College, Calcutta, surgeon on the staff of the Prince of Wales during the recent visit of their Royal Highnesses the Prince and Princess of Wales to India, has been made a Knight Commander of the Royal Victorian Order. Fleet Surgeon Robert Hill, R.N., of H.M.S. *Renown*, has been made a Member of the Fourth Class of the same Order.

THE NEW SCHEMES OF ARMY ORGANISATION.

There are naturally an unwonted amount of interest and consideration being extended at the present time to army matters in general and schemes of military organisation. The impending changes will probably be of a very comprehensive and important nature and their consideration must involve numerous questions in which the medical profession, in common with the rest of the nation, will be either directly or indirectly concerned. In the first place, the Secretary of State for War has appointed a strong committee, with Viscount Esher, G.C.V.O., K.C.B., as chairman, to consider how best to give effect to the principles governing the organisation of the auxiliary forces into a territorial army, as described in the speech of the Secretary of State on Army Estimates in the House of Commons on March 8th, 1906. Mr. Haldane, it will be seen, is slowly but surely working out his and the Army Council's scheme of army reform and in attempting to accomplish this in a satisfactory way he is availing himself of all the advice and help which he can obtain by getting a number of military experts and men "of light and leading" to take part in the necessary preliminary deliberations. An interesting and instructive debate took place in the House of Lords on May 14th in connexion with the question of home defence raised by the Earl of Wemyss. The Earl of Portsmouth said that we had a mobilisation scheme under which it was hoped that we could mobilise as quickly as any continental nation. While very plainly dissociating himself from the "blue water extremists" he nevertheless desired to affirm the principle that the navy was, as it always had been, the natural guardian and the only trustworthy defence for the United Kingdom against oversea invasion. The Under Secretary for War also took occasion to add to our information as to the future position of the militia, the volunteers, and coast defence.

EXAMINATION FOR COMMISSIONS IN THE ROYAL ARMY MEDICAL CORPS.

An examination of candidates for not less than 40 commissions in the Royal Army Medical Corps will be held on July 26th and following days. Applications to compete should be made to the Secretary, War Office, 68, Victoria-street, London, S.W., not later than July 16th, on which date the list will be closed. *Candidates* who are over the regulation limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after Oct. 1st, 1899, that they could reckon towards retired pay and gratuity if such deduction will bring them within the age limit. The presence of candidates will be required in London from July 24th.

REPORT ON ARMY PROMOTION EXAMINATIONS.

A report signed by General Hutchinson, director of staff duties, has appeared setting forth the results of the examination for army promotion in November last, a summary of which has been published in the *Army and Navy Gazette* of last week. We pass over the papers set for, and the marks gained by, the combative ranks and turn to Appendix VIII., B, Majors R.A.M.C., from which we take the following as likely to prove useful and interesting to those concerned. "Army Medical Organisation.—The work submitted was very moderate. There was no undue difficulty in the paper and nothing to prevent a candidate acquainted with the subject from gaining 80 per cent. of the marks. Major C. J. MacDonald, M.D., was the only officer who obtained 0·8. Sanitation and Epidemiology.—The papers submitted in this subject were better than those on previous occasions though as a whole they are not very satisfactory. No officer gained 0·8 The questions were not such as could be answered simply by working up a textbook; they involved all-round practical knowledge and some considerable familiarity with current developments. Selected Subjects.—Major and Brevet Lieutenant-Colonel W. B. Leishman, M.B., and Major T. McCulloch, M.B., obtained 90 per cent. of the marks. Subjects (*h*) ii. and iii., Lieutenants R.A.M.C.—The results are satisfactory. Lieutenants R. L. V. Foster, M.B., M. G. Winder, and G. F. Rugg obtained 80 per cent. of the marks allotted."

REGIMENTAL HOMES.

The report of the Regimental Homes and Benefits Agency, dated April, 1906, published at 11, Tothill-street, Westminster, London, S.W., gives an interesting account of a scheme began in 1901 as a memorial to the late Prince Christian Victor of Schleswig-Holstein, the scope of which was extended in 1904 Briefly, the idea is to help regiments to build homes for disabled soldiers, the homes being the property of the regiments to which they are attached. 49 homes have already been completed and occupied and ten others are in course of building. As the report points out, this is not the first time that permanent homes for old soldiers have been established. The Warwick, Chelsea, and Kilmainham Hospitals were founded long ago. But it is the first time that the provision is made regimentally and in this respect the scheme is entirely new. Moreover, from the soldier's point of view, the difference is all-important; for he regards a home *established* by an agency outside his regiment as a charity, whereas his selection by his regiment as an inmate of one belonging to that regiment is considered a privilege and an honour.

Correspondence.

"Audi alteram partem."

THE INFAMOUS ACCUSATION AGAINST DR. A. E. JONES.

To the Editors of THE LANCET.

SIRS,—In your issue of May 5th you commented sympathetically upon the conclusion of the hearing of the charge against Dr. A. E. Jones of assault upon certain mentally defective children during his official examination of them at the London County Council day-school which they attend. Completely successful as was the result of the case, it was, of course, not accomplished without considerable expense which falls entirely upon Dr. Jones. Baseless charges of this kind are unfortunately only too well known to the profession which has always readily shown practical sympathy with the victims of an injustice to which all its members are equally exposed. This case, moreover, displays special features which call for more than usually energetic protest if the status of the profession is not to be seriously jeopardised. All are familiar with the class of persons by whom such false charges are usually brought, but this is the first time that an important public body has supported an accusation of this type which originated with mentally defective children, an accusation, *moreover*, which the magistrate dismissed without listening to the defence.

It is felt that a subscription to defray Dr. Jones's legal expenses (which amount to £180) would be the most satisfactory way of expressing the sympathy of the profession and of its intention to meet such attacks as a united body. A small committee, consisting of the undersigned, has been organised for this purpose and Sir Victor Horsley has consented to act as treasurer. Bearer cheques may be made payable to, and crossed, Barclay and Co., and sent to Messrs. Barclay and Co., 54, Lombard-street, E.C., or to Sir Victor Horsley, 25, Cavendish-square, London, W.

We are, Sirs, yours faithfully,
S. H. BOWN, CHARLES BOLTON,
P. MAYNARD HEATH, C. WYNN WIRGMAN.

May 16th, 1906.

The following subscriptions are announced:—

	£	s.	d.
Mr. Arthur E. J. Barker	5	5	0
Dr. J. Rose Bradford	5	5	0
Dr. Dudley W. Buxton	5	5	0
Sir Victor Horsley	5	5	0
Dr. Sidney H. C. Martin	5	5	0
Mr. Bilton Pollard	5	5	0
Dr. Herbert R. Spencer	5	5	0
Dr G. F. Blacker	3	3	0
Mr. Rupert T. H. Bucknall	2	2	0
Mr. Raymond Johnson	2	2	0
Mr M. D. Eder	1	1	0
Mr. E. S. Weymouth	1	1	0

CASEIN AND CASEINOGEN.

To the Editors of THE LANCET.

SIRS,—It is with mingled feelings of pleasure and amazement that I have read the letter of Professor W. D. Halliburton in reply to *my* protest; the pleasure comes from finding that some of the reasons given for the nomenclature are rational, concisely stated, and ones which I can accept. I am amazed, however, that Professor Halliburton should derive caseinogen *from the Latin*; the root of *genero* is not *gen*, but *gener*, and I think he will pardon me *for not* having recognised the Latin origin. Casein is not a Latin word, but judging from the gender of the French and Italian the Latinised form would be *caseina* and a more correct *name* would be "*caseinagenerin*" (I have given the word the termination "in" to indicate its proteid nature). Caseinogen as a word derived from the Latin is but little less objectionable than as a hybrid.

I am still more amazed that Professor Halliburton calls the instance of the confusion that arises *from* his nomenclature which I pointed out in Dr Gustav Mann's book an obvious press error; *in the index* Dr. Mann gives 50 references to casein and two to caseinogen (the word, however, occurs many times in the text in these two references); one and one only of the casein references is to casein in Professor Halliburton's sense, in two of them (pp. 70 and 353) the word caseinogen only and not casein is mentioned in the text, and *in the* bulk of, if not in all, the other 47 references the word casein is used obviously in the sense of caseinogen. One instance *especially* may be quoted in full (p. 378): "Fibrinogen, myosin, and casein assume a firm state of aggregation when acted on by certain ferments." This passage clearly shows not only is Professor Halliburton's nomenclature departed *from in "casein" but in "myosin" as well, and it* cannot be an "*obvious* press *error*" when two words are given in the old form. It is the tacit sub-conscious revolt of a scientific mind against what I have ventured to term a philologically barbarous nomenclature. I am again amazed *that Professor* Halliburton should speak of "antique terminology." Is he *aware that in the index of the Journal of the Chemical Society* for 1905, quite lately published, "*caseinogen*" does not occur, but the proteid to which he gives this name is called "casein"? Does he know that in the abstracts of the *Chemical Society*, except in those made by himself, the word "casein" has been used this year? Has he forgotten that in the January number (vol i., p. 56) he wrote, "A comparison of solutions of casein and para-casein (or as they are usually called in English caseinogen and *casein respectively*)......"? And is not this a tacit admission that "caseinogen" is still largely called "casein" and "casein" "para-casein"? Does not Dr. Thorpe, an ex-president of the Chemical Society and chief Government chemist, use "casein" (Transactions of the *Chemical Society*, 1905, pp. 214, 216) only last year?

Professor Halliburton *asks if* I *would propose to drop* the word "fibrinogen" and call it fibrin; my answer is that fibrin should be retained for the proteid to which it is at present applied; it has *priority* and *is universally accepted.* I should like fibrinogen dropped or modified. I *am glad to* hear that a joint committee of the Chemical and Physiological Societies has been appointed to consider proteid nomenclature but deplore their recommendation; I can only think that they have not had the case against the use of caseinogen put before *them*. I *may* say that I do not object to "caseinogenate" on account *of* its length, I cannot pronounce it euphoniously.

Finally, I would like to recapitulate *the chief* objections against "caseinogen": 1. *It is* "*philologically* barbarous." 2. Casein has priority. 3. It is far *from* universally used even in England and still less so in America. 4. The German "kasein," *the French* "caséine," and the Italian "caseina" are generally used and *the natural word* which occurs for the translation of these is "casein." (*The confusion* which exists is due to 3 and 4.) 5. It departs from the well-established rule of chemical nomenclature that similar compounds have the same termination. For this very proper reason the old terms "caseine" and "albumen" have been changed to "casein" and "*albumin*."

It would be quite easy to retain the advantages pointed *out* by Professor Halliburton and at the same time to abandon "*caseinogen*." I am, *Sirs, yours faithfully,*

H. DROOP RICHMOND.

Woodfield road, Ealing, W., May 12th, 1906.

To the Editors of THE LANCET.

SIRS,—As Mr. H. Droop Richmond *has* courteously sent me a copy of the letter *on* this question which *he is* forwarding to you for publication I am enabled *forthwith to* add a rejoinder. It shall be very brief and, so far as I am *concerned, final, for I* am well aware that your space is too valuable for discussions *of* this nature. I will only say that I am not convinced by Mr. Richmond's arguments and will refer those interested in the question to my letter of last *week*, as I find myself unable to state my own views any *more clearly than* I have put them there. The only statement there made which I should like to amend relates to what I said about Dr Gustav Mann's book. The *particular case* of confusion in the use of the two words under discussion, and which appeared to me to be a printer's error, is not, as Mr. *Richmond* correctly states, the only instance where the words are *wrongly employed*. I admit *that authors* as well as printers are occasionally careless, but I fail *to see in that* any reason for adopting Mr. Richmond's views. Physiologists *in this* country have practically unanimously accepted the words caseinogen and casein *in the* sense in which I have urged they should be used. I feel hopeful now that Mr. Richmond admits some of my reasons to be rational and acceptable to him that chemists also, when the "tacit subconscious revolt of their minds" has subsided, will fall into line also. When we have set our own house in order it will be time to try to persuade foreign nations to follow suit, and it is the intention of the proteid nomenclature committee, to which I referred last week, to obtain the opinion of other countries regarding their proposals before putting them forward in any authoritative manner.

I am, Sirs, yours faithfully,
W. D. HALLIBURTON.

King's College, London, May 14th, 1906.

THE TRANSMISSIBILITY OF GOITRE.

To the Editors of THE LANCET.

SIRS,—The following history seems interesting enough for publication. A perfectly healthy family came from a village near the Exe and settled here some 36 years ago. No member of the family, so far as they can tell, ever suffered from any enlargement of the neck previously to their coming here. There were three daughters. The youngest went to work at a farm in this village at 15 years of age and rapidly developed goitre. (Another help at the same farm has recently also developed goitre very rapidly.) She left the farm and married and the goitre has persisted but has not increased. Her first eight children were born healthy, the ninth had well-marked goitre and died in infancy from whooping cough, and the tenth, born last month, has also well-marked goitre. All the children were suckled and she is sure that the last two never drank any water at any time. The well water here is extremely hard and goitre was, it seems, very common before the present supply was instituted. It is practically extinct now and I know of no recently developed case except the one at the farm mentioned, which is one of the few places where they still drink well water.

The history is interesting, for it is impossible to doubt that she acquired goitre from a definite source and had apparently no hereditary tendency. After eighteen years, while no longer exposed to the poison, she seems to have communicated the complaint to her offspring. During the last two years she has not drunk any unboiled water by my advice and she has not drunk well water for several years. My books of reference say that goitre is occasionally hereditary and may occur in infancy, but I can find no case similar to the above, which seems to militate against the axiom which tells us that "Acquired peculiarities are not hereditary." It almost suggests that goitre poison is like syphilitic poison and may be acquired and passed on to the offspring.

I am, Sirs, yours faithfully,
O. CLAYTON JONES, M.B. Oxon.

Silverton, Devon, May 7th, 1906.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY?

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 12th, p. 1347, Mr. Edward Ward makes a claim, on Mr. H. Littlewood's behalf, to priority in two "essential features" of the operations of gastro-enterostomy and of intestinal anastomosis, "the use of rubber sheathed Doyen's clamps" and "the excision of elliptical portions of mucous membrane from each organ."

First, as to the use of the clamps. In Mr. Littlewood's paper to which Mr. Ward refers the mention of the clamps is merely incidental. The title of the paper—and it is important to note it—is "Intestinal Suture by Means of Continuous Catgut Stitch, and Excision of the Mucous Membrane." In his preamble Mr. Littlewood, after mentioning some of the mechanical aids used in affecting anastomoses, writes: "At the present time many surgeons have reverted to the earlier practice and have abandoned the use of any special apparatus, and I am amongst those" (implying obviously that he is only one among many) "who believe that all accessory apparatus for intestinal suture will ultimately be discarded and that we shall rely on our fingers, the forceps, and needles and sutures." There is not one word here or in any part of the paper which suggests that Mr. Littlewood considered that he was introducing any innovation in the matter of forceps. Mr. Littlewood himself, therefore, makes no claim whatever in this paper for any priority in the use of clamps in either stomach or intestinal work. Had he done so his claim could not have been substantiated. The use of the clamps in intestinal work was at least 20 years old when Mr. Littlewood wrote. Kocher in 1880[1] describes and illustrates with four figures his method of intestinal resection in which clamps were used. Mr. Thomas Smith (now Sir Thomas Smith) in THE LANCET of Nov. 18th, 1893, p. 1260, referring to an intestinal clamp described in THE LANCET of Sept. 30th, 1893, p. 813, by Mr. W. A. Lane, drew attention to a clamp forceps "which has a more extended application in abdominal operations." "These forceps," he wrote, "have curved, flat blades with a parallel grip and they are made of various sizes; they can be applied to the stomach, gall-bladder, cæcum, intestine, or any cyst wall. Their purpose is to occlude the cavity on the convex side of the clamp and to isolate the part included within the blades during the application of sutures, whether it is for closing a wound or for attaching the part to the abdominal wall. The blades can be sheathed with rubber tubing or used naked." Doyen, whose forceps Mr. Littlewood used, described his *pince à mors élastique* and illustrated their use in stomach surgery in his work, "Traitement Chirurgical des Affections de l'Estomac et du Duodenum," in 1895 (pp. 294, 302, and 303). These references will, I think, suffice to show that the use of clamps was of much older date than 1900 and that Mr. Littlewood has no claim to priority in their use either in stomach or intestinal work. If Mr. Ward had been content to claim for Mr. Littlewood that he used the clamps before any other surgeon in Leeds I should have agreed with him entirely, as I have previously told Mr. Littlewood there can be no doubt whatever about that.

The second point is concerned with the question of the excision of the mucous membrane in anastomotic operations. Mr. Littlewood considered this, as the title of his paper shows, an essential and original part of his procedure. The paper which Mr. Littlewood read was published in THE LANCET of June 29th, 1901, p. 1817. My publication of a paper read before the Mirfield Medical Society appeared in the *British Medical Journal* of Dec. 8th, 1900, p. 1631. In that paper I wrote: "An incision two inches to two and a half inches long is made through the serous and submucous coats only; as they are divided they retract and an ellipse of mucous membrane over half an inch wide in the centre and narrowing off at each end pouts into the wound. Two pairs of nibbed forceps, one towards each end, grip and pull upon the ellipse of mucous membrane, which is then excised."

When Mr. Littlewood read his paper in Leeds I joined in the discussion. He will, I think, remember that I then said I had practised the excision of the mucosa in the way I have described and in my remarks I attributed my thought of this procedure to the "stamping out" process of the Murphy button, which removes a portion of the apposed viscera and so forms an opening in place of a slit. I have, in conversation, since told Mr. Littlewood that I believed that in this matter the priority rested with me. In the first edition of "Diseases of the Stomach," written by Mr. Mayo Robson and myself, I devoted a paragraph (p. 273) to the question of the removal of the mucous membrane in gastro-enterostomy. I put my own opinion and practice first and Mr. Littlewood's second, because I thought then that this was the order of precedence. In later papers I have not hesitated to describe this procedure as due to my own thought and as owing its origin, in my own mind, to the use of the Murphy button.[2] Obviously, then, when this claim for Mr Littlewood's priority is made it is a question of ascertainable fact which is at stake; it is not a question of opinion.

The evidence I offer is this. The first occasion upon which I performed the excision of the mucosa was on June 1st, 1900,[3] the second was on June 6th, 1900, a patient of Dr. H. J. Clarke of Doncaster. This case is not included with the one just named because at the time I believed the condition to be malignant. It is, however, included in my "Report" to the British Medical Association last July, a copy of which I sent to THE LANCET (p. 87)[4] I have changed the case from the "malignant" to the "simple" series, because the patient is alive and in perfect health at the present moment. The third case was on August 1st, 1900.[5] These cases have been on record unchallenged now for over five years and during that time I have repeatedly expressed my belief that this procedure was original in my own mind. Mr. Littlewood has not published any dates of operations performed either in the paper to which Mr. Ward refers or subsequently. It remains with him or with Mr. Ward to put forward now the date of his first operation.

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[1] Centralblatt für Chirurgie, 1880, No. 29, pp 465–469

[2] Abdominal Operations, p. 157.

[3] See Brit. Med Jour., vol ii., 1900, p 1634.
July 29th, 1905, p. 326.

[4] THE LANCET, Jour., vol. ii., 1900, p. 1634.

[5] See also Brit.

This, then, is my reply to Mr. Ward: First, so far as concerns the clamp. Mr. Littlewood has never given a written hint to the effect that he considers himself to be introducing a new method into the technique of intestinal suture. Had he made any claim to authorship in this matter it could not, in my judgment, and by reason of the evidence I have submitted, with himself as one of the witnesses, have been sustained. If Mr. Ward now makes such a claim for him I shall be interested to hear by what arguments he proposes to establish it. But whether Mr. Littlewood's precedence is or is not asserted is immaterial so far as I am concerned, for neither verbally nor in writing, directly or by implication, have I ever put forward a claim for myself. I hope I make myself quite plain to Mr. Ward. What I have been able to do in the matter of the use of clamps is accurately stated by Dr. Mayo, who says that I have "popularised" them. That I hope and believe to be true. *Secondly*, so far as concerns the excision of the mucosa, I have from the first and always claimed this as a procedure original with myself. Mr. Littlewood himself cannot, I think, be in any doubt about my opinion. The facts upon which my opinion is based have been published in every relevant detail for five years. If there has been "omission" or "inadvertence" it cannot, I think, be justly imputed to me.

Mr. Ward in his wonder as to the details of the method to which Dr. Mayo attached my name shows that he has not done me the honour of reading the description of the operation of gastro enterostomy (as I then performed it) which I read before the American Surgical Association in 1903. In two "essential features" I have altered the operation since then. What I now consider them will be seen by reference to pp. 157 and 158 of my book on "Abdominal Operations." I give there eight chief points and the only one common to the operation as I practise it, and Mr. Littlewood's method described in the paper to which Mr. Ward refers, is the excision of the mucosa. In the operation as I practise it to-day there are many "essential points" (as I consider them); some may possibly be original, many may be adopted from one surgeon or another, but the complete procedure is a *different operation from* any with which the literature of the subject makes me acquainted.

I am, Sirs, yours faithfully,
Leeds, May 14th, 1906. B. G. A. MOYNIHAN.

THE EMPLOYERS' LIABILITY BILL AND PRACTITIONERS IN MEDICINE.

To the Editors of THE LANCET.

SIRS,—Now that the above Bill is before Parliament I would suggest that the different divisions and branches of the British Medical Association and other medical societies take immediate action so that all medical practitioners shall be included in the above Bill. Almost all the illnesses and accidents which attack us come through our dangerous occupation, while each year finds the majority less able financially to provide against sickness, accidents, infirmity, and old age.

I am, Sirs, yours faithfully,
Liverpool, May 15th, 1906. ROBERT R. RENTOUL.

DEATHS UNDER ETHYL CHLORIDE.

To the Editors of THE LANCET.

SIRS,—In reference to the death under ethyl chloride reported in THE LANCET of May 5th, 1906, p. 1236, Case 10, by Dr. T. D. Luke, as having occurred at this institution, on page 1236 it is stated that "the administrator was a student who had practically no experience of anæsthetics and the operator was a house surgeon who had performed this operation only on half a dozen previous occasions." Both these statements are incorrect. The anæsthetic was given by the assistant house surgeon who was fully qualified and I was the operator. I have performed this operation very many times, as many, I venture to say, as Dr. Luke has administered ethyl chloride, not half a dozen as stated. I think Dr. Luke should have ascertained the correct facts before publishing any which, if true, would reflect not only on this institution but on myself. As the matter stands it shows a deplorable want of care in the collection of the facts and reflects on the veracity of other statements.

I am, Sirs, yours faithfully,
THOMAS YOUNG SIMPSON,
M.D., B.S. Durh, M.R.C.S. Eng., L.R.C.P. Lond.
Royal Albert Hospital, Devonport, May 14th, 1906.

PELLAGRA NEAR MILAN.

(FROM A CORRESPONDENT.)

THE LANCET is kept well informed of the efforts of the Italian Government, aided by many benevolent societies, to fight the disease which is caused by eating bad maize, or that cereal insufficiently dried or ill preserved. In discussing this question it cannot be too often observed that healthy maize does not produce pellagra, for the dreaded disease is apparently caused by one or more moulds present in the corn, the toxic spores chiefly suspected being the aspergillus *fumigatus* and the *penicillum glaucum*. The aspergillus occurs chiefly during the warm months in Italy and seems to be the more important of the two, for though in a test-tube it is killed at 100° C., it is found to live for at least 25 minutes at 85° to 90° C., which is probably quite as high a temperature as that of any oven used by the Italian peasants for baking their bread. Their bread consists of a mixture of maize flour, 16 per cent., and rye flour, 84 per cent. The Italian law of 1902 makes pellagra a notifiable disease; it prohibits the sale of bad maize; and it makes compulsory on the local authorities the construction of drying houses for maize and the treatment and maintenance of pellagrous patients in their homes and in special retreats; the expenses are partly borne by the central Government. But, like many other things in Italy, it is to be feared that these regulations, so excellent on paper, are not very thoroughly carried into practice. I can, however, vouch for the utility of one of the chief retreats—that for the province of Milan at Inzago which I lately had the pleasure of visiting with the enthusiastic director, Dr. G. Friz, who has devoted some 30 years to the consideration of pellagra and to attempting to improve the condition of the poorer peasants. The retreat is built in the midst of agricultural fields, for the accommodation of some 50 young people aged from 12 to 24 years, most of whom are children of pellagrous parents and have already shown the first signs of the disease. The early symptoms discovered are usually giddiness, stupidity, depression of spirits, general debility, loss of appetite, a feeling of burning or of fulness at the epigastrium, diarrhœa and erythema or dry desquamating skin on the dorsum of the hands and feet or at the neck. The retreat has been constantly used since it was founded in 1890, since when about 1200 boys and girls have undergone a six months' treatment, for each sex is treated in turn. The average gain in weight is from four to 26 pounds during the six months, which shows that the rations are good. The diet is varied and once a week they are allowed to have maize flour in their favourite *polenta*. They are taught by some devoted sisters of mercy with the result that whereas only 6 per cent. can read and write on admission 42 per cent. have acquired these arts before leaving. Every day they have one hour's lecture on elementary personal hygiene and the rest of the day is spent in work out of doors. The boys till the fields round the house and are specially taught why bad seed should not be planted, and why cereals must not be harvested unripe, and must be well dried and then kept dry. The girls are taught sewing and knitting and everything relating to silkworms and their successful development, including some knowledge of the mulberry tree, which is so common in that district. Dr. Friz also visits the homes of the young people in order to see whether the parents are really poor and to keep an eye on the patients who have passed through his hands.

The number of peasants in Milan province now affected by pellagra is said to be 12 per 1000, while at Bergamo the number is 20 per 1000. It is interesting to remember that the first hospital for the treatment of pellagra was opened in 1784 at Legnano under the auspices of the Council of the Duchy of Milan. The total number of pellagrous cases in Italy is now said to be 72,000.

I took the opportunity while in this neighbourhood of renewing my acquaintance with the County Lunatic Asylum of Milan at Monbello. There were 857 admissions during last year and the number of patients remaining on Jan. 1st, 1906, was 1383, the two sexes being almost equally divided. The total number of pellagrous admissions during last year is entered in the report as 62, but that cannot in any way represent the number of lunatics who are pellagrous, for in every courtyard I found at least a dozen pellagrous lunatics. The deaths from pellagra during the year were 13 men and 22 women. At this spring time of the year the erythema can be very well seen on the exposed parts of the body. This asylum is now under the direction of Dr. G. B. Verga, the nephew of a professor whose name is well known in pellagra literature, and he is aided by ten assistants, one of whom, Dr. Rossi, is doing some excellent microscopic work.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The New Pathological Department of the University.

ALTHOUGH a certain number of details have yet to be dealt with the new pathological department is practically complete and work has commenced in it. The new department may be entered either through the old pathological department, which is still retained for histological classes, or by a special entrance in the new buildings. In the basement are the animal rooms, the operating room, the mortuary, a centrifuge room, and a projection room and associated dark room. On the ground floor, to the left of the main entrance, is the assistants' room, and to the right is the private room of the special demonstrator for public health work. At the back on this floor is a beautifully lighted and splendidly fitted bacteriological class-room from which there is access to the histological laboratory. In addition there is a room which will be devoted chiefly to kymographic work. On the second floor are the private rooms of the professor and the demonstrator, a large clinical room, and a balance room. On the third floor are a laboratory reserved for the private use of the medical officer of health and a large research laboratory. In addition to the main rooms there are a number of smaller rooms for special research work, all admirably designed and fitted, well lighted, and well ventilated. The department is an important addition to the resources of the University and the city and it provides unsurpassed facilities both for teaching and for research.

Playgrounds for City Children.

It is well known that the healthiness of town districts depends very much upon the plentifulness and freedom of their air-supply. Apparently the conditions in Birmingham as regards air-supply and open spaces are very unsatisfactory, for Dr. J. Robertson, our medical officer of health, who has been making investigations upon the subject, points out that when public parks and other open spaces are taken into account Birmingham is in a worse position than other manufacturing towns of this country. Taking eight of the largest manufacturing towns—Newcastle, Bradford, Bristol, Manchester, Nottingham, Liverpool, Sheffield, and Birmingham—the number of people per acre of park and open space increases from 206 in the case of Newcastle to 1026 in Birmingham. Birmingham is unfortunate also in the fact that the areas to the south, north, and north-west of the city are built upon and densely populated, and the air coming to us from them is therefore more or less deteriorated as contrasted with that which reaches some of the more favourably situated cities. Moreover, we have no large river passing through our midst to sweep in fresh air with the flow of its stream. Dr. Robertson finds that in many of our central districts the only places in which the children can play are inclosed and in some cases unwholesome courtyards and it is not possible for the children to get to satisfactory open spaces where there are trees and shrubs. It is, of course, impossible, on account of expense, to provide parks in these central districts but it is occasionally possible to acquire small areas which can be opened up and transformed into wholesome playgrounds which will serve also to increase the air-supply of the surrounding buildings. Opportunities of this kind, however, are allowed to slip by because it is no one's duty to take advantage of them and to obviate this it is proposed to form a committee to promote the formation of an association the members of which will unite in an attempt to provide the central districts with as many open playing spaces as possible. Besides the medical officer of health, Councillor Nettlefold, Professor Muirhead, Professor Ashley, and Mr. Kirkaldy are taking a prominent part in the movement. It is to be hoped in the interests of the city's health that a powerful association will be formed and that the object desired will be attained.

The Health of the City.

During the last three weeks the death-rate of the city has fallen steadily from 21·4 per 1000 to 16·9 per 1000. Deaths from most of the zymotic diseases have decreased, but for a brief period there was a decided rise in the notifications of scarlet fever. This, however, was merely a passing fluctuation from which there was a prompt recoil and there is obviously no reason to fear an epidemic.

Canal-boat Life.

In THE LANCET of April 7th I drew attention to the difficulty which Dr. J. D. McCrindle (assistant medical officer of health) had experienced in getting information regarding the deaths of children born on canal boats. A lurid side-light has been thrown on this matter during a recent investigation in the Wolverhampton coroner's court into the cause of death of a child three weeks old. The mother stated that the child was prematurely born and that she had had 15 children, nine of whom had died in infancy. She added that she worked on the boat to within a short period of each birth. It was asserted at the same inquiry that two cases were known in one of which only one child out of 14 survived and in the other all the eight children born died in infancy. The coroner commented strongly on the matter and expressed the hope that some action would be taken to prevent women working at such critical periods of life.

May 15th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool School of Tropical Medicine.

THE King of the Belgians has sent to Sir Alfred Jones, the chairman of the School of Tropical Medicine, a letter intimating a contribution of £2600 to the funds of the school. This sum is in addition to the large amount which King Leopold has already contributed to the school. Sir Alfred Jones has also received a letter in the following terms from the Secretary-General of the Congo Free State in Brussels: "Referring to our recent conversation, I beg to confirm to you that the Government of the Congo Free State has resolved to bear the expense which was occasioned by the visit of the members of the Liverpool School of Tropical Medicine during their sojourn in the Congo. These expenses, which include in a general way the maintenance of the expedition, the salaries of the attendants, and transport expenses, amount to £1421. The Government desires by this decision to show its sympathy with the philanthropic work undertaken by the School of Tropical Medicine and with the spirit in which its members acquitted themselves in their mission to the Congo." Dr. Jacques of Brussels has been deputed by the King of the Belgians to attend the course of instruction under the auspices of the Liverpool School of Tropical Medicine.

Joint Matriculation Board of the Universities of Liverpool, Manchester, Leeds, and Sheffield.

The arrangement whereby the matriculation examination can be held in July at a school as a form examination under the ordinary regulations requiring candidates to offer five subjects and not allowing them to offer more has been extended to meet the case of schools in which the curriculum demands six subjects. In such a case a form will be allowed to take six subjects provided that either Latin or Greek is included among them. In order to obtain a matriculation certificate a candidate must satisfy the examiners in the two obligatory subjects and in three of the optional subjects, one of the three subjects being a language.

The High Death-rate of Liverpool.

At the weekly meeting of the health committee of the city council held on May 10th the chairman referred to the high death-rate, which during the past week was 27 per 1000, and said he thought that it was only right that something should be done to diminish it. The chief causes of the increased rate were old age, the weather, the epidemic of measles, and infantile mortality. He suggested that the medical officer of health (Dr. E. W. Hope) should prepare a comparative statement of the death-rates in the different districts and submit it to the committee which could then consider the steps to be taken in those districts where the highest death-rate occurred. Crewe appears to be in a much more fortunate condition than Liverpool, as in the former town the death-rate during the month of April reached the remarkably low figure of 8 per 1000, establishing a record in its history. The medical officer of health (Dr. A. J. Laird) in his weekly report states that this happy result is due to the comparative freedom from infectious disease among children and to the low infantile mortality.

Cheshire New Nursing Association.

A large and influential meeting, convened by the Duke of Westminster, was held on May 5th in the council chamber of Chester town hall to consider the advisability of forming a county nursing association for Cheshire. The Duke of Westminster presided and the attendance included the Earl of Crewe, the Bishop of Chester, Lord and Lady Stanley of Alderley, Sir John Brunner, Bart., M.P., and others. The association maintains a nurse who visits the districts, reports to the local committees, and gives help and advice when required. It also keeps a reserve of two or three nurses available as substitutes. The Duke of Westminster explained that some time ago it was suggested to him that it would be desirable to convene a meeting of those interested in the county for the purpose of starting a county nursing association. There were many local nurses employed in Cheshire, but the local committees acted independently and it was with the idea of bringing those local committees together that they hoped to justify the existence of a county nursing association. Influential support had already been promised but he would like to lay stress upon the fact that that was not a scheme which should merely be supported by influential people but that it should be maintained by the help of the whole county. Miss Hughes, general superintendent of the Queen's Institute, gave an interesting address on the work of the county associations, pointing out their great advantages. The Earl of Crewe moved:—

> That a county nursing association for the county of Chester be formed, this meeting fully recognising the advantage of forming such an association.

He said that scientific nursing had only really moved during the last 50 years and it had always been associated with the name of Miss Florence Nightingale. He alluded to the admirable work done by the Queen's Jubilee nurses. The Bishop of Chester seconded the motion which was unanimously carried. The Duke of Westminster was elected president, and the list of vice-presidents included the Duchess of Westminster, Katherine, Duchess of Westminster, the Earl and Countess of Crewe, the Earl and Countess of Stamford, the Bishop of Chester, Lord and Lady Newton, Lady Stanley of Alderley, Mrs. Henry Gladstone, Sir John Brunner, and others.

May 15th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Bristol Lunatic Asylum.

THE visiting committee of the Bristol Lunatic Asylum at Fishponds in its forty-ninth annual report, which has just been issued, states that on Dec. 31st, 1905, the number of inmates in the institution was 944 (418 males and 526 females). The highest number in residence at any period during the year was 957. Plans providing for further accommodation for 59 male patients have obtained the approval of the Commissioners in Lunacy and the work will shortly be commenced. The committee adds that it has reduced the weekly charge of maintenance from 11*s*. to 10*s*. 6*d*., and in conclusion records its appreciation of the way in which the duties connected with the institution have been performed by the medical superintendent (Dr. J. V. Blachford) and staff.

The Somerset Education Committee and Medical Certificates.

At a meeting of the Somerset education committee held at Bridgwater on May 8th the school attendance committee reported that as the medical practitioners of the Taunton rural district did not approve of the county committee's scale of fees they refused to grant medical certificates in cases of absence from school through alleged illness and the district sub-committee had accordingly been instructed not to ask for medical certificates.

Vaccination at Stonehouse.

At a meeting of the Stonehouse board of guardians held on May 10th a discussion took place concerning the cost of vaccination. It was stated that the vaccination fees for the past quarter were £48, compared with £24 for the corresponding quarter of 1905. The clerk said that the increase of expenditure was due to the present small-pox scare.

District Nurses for the Poor at Plymouth.

A scheme has been initiated by Countess Fortescue, wife of the Lord-Lieutenant of Devon, and the Earl of Mount Edgcumbe with a view to provide nurses for the poor of the "Three Towns" and eventually to establish a training home similar to the institution at Plaistow. An influential committee has been appointed and £250 have been already promised. It is intended to affiliate the branch with the Devon County Nursing Association and with the Queen Victoria's Jubilee Institute for Nurses. At an early date a public announcement will be made of the scheme with an appeal for financial help.

May 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scottish Poor-law Medical Officers.

LAST week a deputation waited upon the Secretary for Scotland with reference to the position of the Poor-law medical officers in Scotland. Mr. W. L. Muir of Glasgow, the secretary of the Scottish Poor-law Medical Officers' Association, stated the case for the deputation and drew attention to several grievances which they wished to see remedied by legislation. First, they desired to have an application to the Local Government Board in cases of unjust dismissal by the parish council, there being, as they contended, many cases in which that power was harshly and unreasonably exercised. They pointed out that in some remote districts dismissal might mean absolute ruin to the medical officer. In the second place, they claimed to have a right to order an invalid diet for paupers without an appeal to the inspector of poor who had at present the power to veto any special diet which they prescribed. Thirdly, they urged that powers should be given to erect from parochial funds dwelling-houses for medical officers, there being many parishes in which they could not obtain proper accommodation. In the fourth place, they contended that they should be granted a suitable annual holiday when the greater part of their income was derived from parish sources. (At present they could not obtain a holiday without paying four guineas a week for a locum tenens.) Fifthly, they urged that a uniform fee of one guinea should be given for granting a lunacy certificate. At present there was a great diversity in the fees that might be paid by the parish council for those cases and in many instances the medical man got nothing at all. They also urged that there should be a special fee for special cases which they had to attend. In substance, they asked that they should be put in the same position as the Poor-law officers in England and Ireland. Their education and duties were the same and their status ought to be made at least as satisfactory. They further suggested that there should be a special Government subvention for the outlying islands and poorer parts of the Highlands. The Secretary for Scotland promised to make full inquiry into their complaints.

Lodging-houses on Fire.

A series of regulations has been drawn up by the special committee appointed by the corporation of Glasgow to report upon the disastrous fire which occurred some months ago in a model lodging-house in the city and which resulted in the loss of so many lives. The regulations will commend themselves to everyone who has realised the possibility of fire in these crowded lodging-houses. The provision, in particular, that every lodging-house or hotel with sleeping accommodation for over 100 persons should have at least two adequate means of exit to the street is a wise proposal, though it may cause some inconvenience and expense to the proprietors. It may not prevent fire but it will at least minimise the consequences of a serious outbreak so far as loss of life is concerned. The prohibition of smoking and the use of lighted matches or candles in the dormitories is also, no doubt, a wise precaution but it remains to be seen whether this will be able to be enforced rigorously.

Port Glasgow's Insanitary Central Area.

The medical officer of health of the borough of Port Glasgow, in submitting his annual report, states that much of the disease in Port Glasgow is due to the insanitary housing of the poorer classes. Writing of the central area of the town, he says that the whole of this area is an unhealthy area within the meaning of the Housing of the Working Classes Act. Within that area nuisances abound. The principal and most apparent nuisance arises from the lack of water-closet accommodation. Lacking that, the "ashbins" become unspeakably filthy. He quotes sections of the Burgh Police Act which empowers the local authorities to require the introduction of water and a jawbox into each house in some window recess or other well-lighted place, and points out that if this provision alone were enforced in the central area of Port Glasgow it would bring about a sanitary revolution there.

Crusade against Consumption.

For some time past the authorities in the larger towns of Scotland have been making efforts to stamp out, or at least to control, the spread of consumption in their midst. It is with considerable gratification that the smaller towns are attending to their responsibility in this matter within their own borders. The public health department of Greenock has agreed to recommend that a system of voluntary notification of consumptive cases should be adopted; that leaflets should be issued bearing on the treatment of the disease; and that the directors of Greenock Infirmary should be approached with the view of obtaining a few beds in one of the unused wards of the hospital. Helensburgh also has decided to try voluntary notification and in the meantime the emergency hospital is to be utilised for the treatment of those suffering from this disease. It is worthy of note also that Clackmannan County Council is printing and circulating broadcast throughout the county a short treatise on consumption by the county medical officer.

May 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

AT the usual fortnightly meeting of the public health committee on May 1st Sir Charles Cameron, medical officer of health of the city, reported that the death-rate during the previous fortnight was 27·4 per 1000 persons living and stated that this was the lowest record since the accurate registration of deaths was commenced. It is still high, however, and among adults is largely due to enteric fever. At the last meeting of the managing committee of Cork-street Fever Hospital on May 10th the registrar reported that many cases of that disease of a very severe type had been admitted. The corporation is aroused and is now attempting to deal with the tenement house problem by building new houses for the artisan class, while an effort has been made to secure a safe supply of milk. Mr. T. J. Lawler has proposed a motion in the council, which was seconded by Dr. J. C. McWalter, and adopted, that the council should take steps:—

> To cause all consignors and consignees of milk coming into the city to be registered; to have certified that all such milk was taken from cows free from tuberculosis; that the premises in which the cows were housed were in a sanitary condition; that the premises used for storing the milk should be clean; that no infectious disease was amongst the employés concerned in the collection or storage of such milk; that the vessels used in storage and transmission of such milk were clean.

Mr. Lawler remarked that 50 per cent. of the milk used in the city of Dublin came from the country and within the past two years not so much as one pint of that milk had been examined in any way before it was used by the inhabitants. He said they had in the city over 300 dairies, which were compelled to comply with the duties imposed on them by the by-laws of the corporation, while the greater portion of the milk was supplied without any restrictions or supervision whatever. In reply to an objection as to the practical difficulty of carrying out his scheme, the proposer of the motion said that the Liverpool corporation had in force a law similar to that which he suggested that they should adopt in Dublin. The motion was carried and despite the difficulties put upon the executive the citizens of Dublin will probably be found on the side of reform. Many statements have appeared during a long period as to the number of deaths among infants in this city and the uniformly high death-rate in Dublin is affected by the infantile mortality—points which are in favour of supervising the milk-supply.

National Maternity Hospital, Holles-street, Dublin.

The monthly meeting of the board of the National Maternity Hospital was held on May 8th, the Very Reverend Canon Fricker, P.P., presiding. The governors proceeded to elect an intern assistant physician in the place of Dr. John J. O'Hare whose three years' term of office was ended. There were three candidates for the position, of whom Mr. A. Roche had a majority of votes and was elected.

The Health of Belfast.

On May 8th a conference was held in Belfast under the auspices of the "Citizens' Association" in reference to the alarmingly high death-rate in the city. The meeting was convened by circular and was representative of the various public organisations in Belfast The chairman (Mr. S. H. Woods), in opening the proceedings, pointed out that as a result of the recent discussion in the Belfast papers on the high death-rate from pulmonary tuberculosis the public had become alarmed and dissatisfied. Incidentally he paid a high compliment to Professor J. W. Byers for what he styled the "illuminating information" which he had given in his articles. Dr. W. Calwell (President of the Ulster Medical Society) brought forward the first motion:—

> That the alarmingly high death-rate of Belfast, especially from tuberculosis in its various forms, demands vigilant attention from the citizens and vigorous action by the responsible authorities, and shows the urgency and imperative necessity that the city council should secure the highest specialised professional skill and lengthened experience available in the United Kingdom for the oversight of our public health.

In support of the words "alarmingly high death-rate of Belfast" Dr. Calwell quoted a number of figures from tables which were circulated amongst the audience. In 1904 Belfast was seventy-fifth to seventy-seventh out of 82 large towns in the United Kingdom in its high death-rate, 20·9. In 1903 Belfast was seventy-seventh out of 80 large towns; in 1902 it was seventy-seventh out of 80 towns, and in 1901 it was thirty-sixth out of 37 large towns. Practically Belfast during these four years had the worst death-rate in the United Kingdom, with the exception of Dublin, Liverpool, and Wigan. The two latter cities had a higher death-rate than Belfast on two occasions and so were equal. Such figures showed that the death-rate of Belfast was "alarmingly high." Turning to pulmonary tuberculosis, Dr. Calwell showed the death-rate to be worse than in Leeds, Nottingham, Glasgow, and Liverpool, while the only form of tuberculosis mentioned in the health report of Belfast was pulmonary tuberculosis. As to zymotic diseases, with the exception of typhoid fever Belfast came fairly well out of comparison with other cities but the annual report for the last six years or so had made no mention of the increase of insanity, of cancer, of heart disease, of pneumonia, of rheumatic fever, and of alcoholism; he then referred to the very unsatisfactory nature of the health reports of Belfast in other respects. In the report for 1899 it was regretted that information was not forthcoming concerning the causes of death in 4063 cases out of 7933, the other 3870 deaths being due, 2865 to chest affections and 1005 to zymotic diseases. In the report for 1904 information was not forthcoming concerning the causes of 3700 deaths, and Dr. Calwell hoped that the corporation would appoint a specialist in public health to advise them. The motion was seconded by Mr. W. Crawford, J.P., chairman of the board of management of the Royal Victoria Hospital and carried. Mr. John Murphy (secretary of the Trades Council) then proposed the following motion:—

> That the impending resignation of the superintendent medical officer of health presents a unique opportunity to the city council for the appointment of an experienced medical officer possessed of the highest scientific knowledge and training in public health matters, and for such changes in the constitution of the health department as may be required for carrying out necessary reforms, and this conference is of opinion that the city council should take action accordingly.

This was seconded by Dr. Clarke Robinson and carried.

Finally, on the motion of Mr. G. W. Ferguson, it was decided to forward copies of these resolutions to each member of the city council and to appoint a committee to take steps on behalf of the citizens for the furtherance of the objects in view. Accordingly, upon a very influential committee of citizens of Belfast the following medical men were appointed: the chairman (Dr. Calwell) and the secretary (Dr. T. Houston), Dr. J. R. Davidson, and two others (to be appointed by them) from the Ulster Medical Society, Professor Byers, Professor T. Sinclair, Professor J. A. Lindsay, Sir William Whitla, Dr. A. Dempsey, and Dr. C. Leathem.

The Retirement of the Superintendent Medical Officer of Health of Belfast.

Dr. Henry Whitaker having resigned the position of superintendent medical officer of health of Belfast, great interest is being taken in the appointment to be made by the city council as to his successor. It having been suggested in the Belfast papers that the Citizens' Committee had a particular candidate in view, the following motion was unanimously carried at a very fully attended meeting on May 14th of the new Citizens' Health Committee appointed at the conference held on May 8th:—

> That the attention of this Citizens' Health Committee having been called to certain statements circulated and also conveyed by innuendo in the public press on Monday, the 14th inst., it is hereby resolved that this committee emphatically repudiates, both collectively and on the part of its individual members, any interest whatever in the candidature of any persons, local or otherwise, and reiterates its adherence to the principle outlined in the resolutions of the representative meeting lately held—namely, that the appointment to the office of medical superintendent officer of health should be made only by open selection from the highest specialised professional skill available in the United Kingdom.

The City Infectious Diseases Hospital, Belfast.

Mr. P. C. Cowan, inspector of the Local Government Board, held an inquiry in Belfast on May 11th with reference, *inter alia*, to an application from the corporation of Belfast to borrow £25,000 for completing and furnishing the new infectious diseases hospital at Purdysburn, Belfast, which it is hoped will be ready for opening next August.

May 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Changes in the Curriculum of the Paris Faculty of Medicine.

THE President of the Republic has signed a decree which has been submitted to him by the Ministers of Public Instruction and of the Interior and which will involve some modifications of the existing course of medical study. It provides, for instance, that third year students shall attend the practice of a lying-in hospital for four months and during a further period of four months in the same year shall attend one of the special departments for the treatment of diseases of the skin and syphilis, mental diseases, diseases of children, diseases of the eye, and diseases of the urinary passages. Attendance on these courses shall last from Nov. 1st to June 30th. The students shall take up the subjects in such a manner that four months may be given to medical work and four months to surgical work. The decree will come into force on Nov. 1st and the Ministers of Public Instruction and of the Interior, each of them so far as his department is concerned, will be responsible for carrying it out.

The Manual Treatment of Sciatic Neuralgia.

M. Berne is of opinion that massage almost always relieves the various neuralgias of the sciatic nerve and that when combined with certain manipulations it very often yields a successful result in obstinate cases, always provided that the disease is peripheral and neuritic in character; cases of central origin are not amenable to the treatment. When there are lameness and muscular retraction straightening of the limb may be tried. M. Berne has for the last 20 years employed what he designates as "the knee method." The sciatic nerve, passing between the posterior border of the great trochanter and the ischium, rests, as is well known, on the spine of the ischium, against which the flattened trunk of the nerve can be easily compressed after leaving the pelvis. It occurred to M. Berne that this anatomical arrangement might be made to serve a therapeutic purpose by enabling the nerve to be compressed against the adjacent bony surface and he described his procedure at a meeting of the Société de Médecine de Paris held on April 28th. Having caused the patient to lie at full length in the dorsal position on a low couch, M. Berne stands on the affected side. If the sciatica is in the right thigh M. Berne flexes his right knee and holds it firmly against the patient's right sciatic notch; he then seizes the extremity of the patient's right lower limb and flexes the thigh on the pelvis with the leg extended on the thigh. In this way he exerts gentle progressive stretching, quite free from danger, and not requiring the administration of chloroform. This method has given excellent results in old cases of sciatic neuritis occurring in patients who had derived no benefit from the ordinary and recognised forms of treatment. In the manual treatment of sciatica M. Berne is in the habit of supplementing this extension by various movements, including active and passive adduction and abduction of the affected limb, together with movements of circumduction and flexion combined with rotation of the trunk. All these manipulations are, however, of secondary importance in comparison with the prompt and effectual action of the "knee method." It is important to remember that, as already mentioned, the disease must be some form of sciatic neuritis having a peripheral origin. In reply to M. Coudray, who asked a question relative to sciatic neuralgia due to the presence of dilated veins at the point of emergence of the sciatic nerve, M. Berne said that he had seen cases of this kind, in which the pain was caused by varicose veins pressing on the nerve, but he had always declined to undertake the treatment of them because they were purely surgical cases which could only be dealt with by removing the conditions which brought about the compression.

The Cause of the Hair turning White.

This interesting question was discussed by M. Metchnikoff at a meeting of the Academy of Sciences held on May 7th. One of the explanations which have been suggested for the hair turning white is that the individual hairs become dry with age and that the air penetrating into their interior destroys their pigment. Others have said that the colouring matter of the hair of any part of the body (*des poils et des cheveux*) disappears under the influence of a chemical substance. M. Metchnikoff, however, is persuaded that the whitening of hair is a vital phenomenon due to cellular activity. Hair, according to him, is not an inert material; it is alive and is composed of living cells provided with prolongations which envelop and destroy pigmentary substances in contact with them. These "chromophagic" cells in this way gradually destroy the colouring matter of the hair and spread in each direction both towards the root of the hair and towards its extremity. This may be recognised by the fact that after the greater portion of the hair has become white the root still remains coloured. M. Metchnikoff has observed that the hair of women who use curling tongs heated to 60° or 70° C. is comparatively slow to lose its colour. The heat destroys the chromophagic cells. In order to make a scientific study of the whitening of hair M. Metchnikoff used animals whose hair is white in winter and dark in summer, and in this way he found that in some species of Russian and Alpine hares the change from dark to white follows the same course as in the human subject. Moreover, when a person's hair turns white in a single night under the influence of mental shock it is certain that the change is due to excessive excitation of the chromophagic cells which thereupon destroy the colouring matter of the hair in a few hours.

An Oceanographic Institute in Paris.

The Prince of Monaco has written to the French Minister of Public Instruction announcing that he has founded an oceanographic institute to be established in Paris. He has presented to this institute the Oceanographic Museum of Monaco, including laboratories, collections, aquariums, and whatever pertains to them, and for its support he has provided a capital sum of 4,000,000 francs. The institute will be built on the land which the University of Paris, in conjunction with the Prince, has just acquired in the Rue St. Jacques and the Rue d'Ulm. The statutes of the institute provide that its scientific work shall be under the control of an international committee (*comité de perfectionnement*), the membership of which shall be open to eminent authorities in the various departments of oceanography irrespectively of the country or nation to which they belong. The Minister of Public Instruction has directed M. Casimir-Périer to convey to the Prince the thanks of the French Government for his magnificent gift, the value of which exceeds 10,000,000 francs.

Successful Ligature of the Axillary Artery for Aneurysm.

At a meeting of the Surgical Society held on May 2nd M. Loison described a case in which a man, 27 years of age, had received a wound from a revolver bullet in the region of the left axilla. The aperture of entrance being in the side and that of exit near the spinal border of the scapula it seemed probable that the thoracic cavity had not been traversed, and this opinion was confirmed by the subsequent progress of the case. On the following day the radial pulse was quite perceptible but there was some interference with sensation and motion in the region supplied by the musculo-spiral and ulnar nerves. These symptoms did not become worse as time went on, but at the end of a month the axilla contained a tumour which had all the characters of an arterial aneurysm. On an operation being performed it was found that the whole length of the axillary artery was occupied by a pouch which could be separated from the median nerve but not from the musculo-spiral and ulnar nerves. Removal of this pouch being impossible the vessel was ligatured above and below it. The tumour eventually disappeared but there was no radial pulse, and in addition there was partial paralysis of the musculo-spiral and ulnar nerves.

The Prophylaxis of Syphilis.

At a meeting of the Academy of Medicine held on May 8th M. Metchnikoff read a paper on Some New Facts in Experimental Syphilis. After having referred to his own experiments and those of other observers on anthropoid apes and other monkeys concerning the inoculation of syphilitic matter and the production of syphilis in these animals, he mentioned that a chimpanzee, some macaques, and some baboons had been inoculated with syphilitic matter, and at varying times from one to 18½ hours after inoculation the site of inoculation had been treated with ointment containing various mercurial salts. In all the animals so treated the syphilitic virus had not produced its usual effect. These experiments were so encouraging that M. Metchnikoff determined to try the same experiment upon a human being. A student of medicine at the Faculty of Paris offered himself as a subject. He had finished his medical studies and so was fully cognisant of the object of the experiment and of the possible risk which he ran. He had never had syphilis, either hereditary or acquired. Accordingly, on Feb. 1st M. Metchnikoff, in the presence of Dr. Queyrat, Dr. Sabouraud, and Dr. Salmon, inoculated the student in the balano-preputial groove on the left side with syphilitic matter taken from a hard chancre of one month's duration, and on the right side with syphilitic virus from a hard chancre of between nine and ten days' duration. Portions of both types of virus were also inoculated into four Javanese macaques. One hour after the inoculation of the virus the inoculated parts of the student and of one macaque were rubbed for five minutes with an ointment consisting of 30 grammes of lanolin and ten grammes of calomel. 20 hours after inoculation the inoculated part of the second macaque was also rubbed with the ointment. The two other macaques were left without treatment as controls. Two days later the site of inoculation in the student showed no trace of inflammation; the marks of the scarifications were, however, obvious but even they disappeared within a day or two afterwards. On the prepuce of the student but at some distance from the site of inoculation there were two or three herpetic vesicles which disappeared in two days' time, but this was an eruption to which the patient had been subject before. No sign of syphilis had presented itself in the student, although the two control macaques developed typical syphilitic lesions, and of the two macaques which were treated with the ointment the one which was treated 20 hours after inoculation developed a primary chancre after 39 days of incubation. The one which was treated an hour after inoculation showed no sign of syphilis. M. Metchnikoff concluded by saying that this experiment is a proof that calomel ointment applied one hour after inoculation of syphilitic virus is capable of preventing the development of syphilis in man as it is in monkeys. It also proves that after 20 hours the ointment has no preventive action. He therefore has come to the conclusion that it is fair to state that calomel ointment can be utilised in the prophylaxis of syphilis. He allowed, however, that the experiment upon the student was not absolutely complete, for the control experiment which would consist in inoculating syphilitic virus without being followed by local frictions with mercury ointment had not been carried out, but he would mention that he himself had been scratched (*griffé*) by a syphilitic monkey. He had immediately rubbed the place with calomel ointment and had sustained no damage.

May 14th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Statistics of the Sick Clubs.

STATISTICAL returns relative to the sick clubs established under the workmen's insurance laws have been recently published by the Imperial Statistical Office. These figures show that in 1903 the total number of members was about 10,000,000, as compared with 4,250,000 in 1885. It must be remembered that membership is compulsory for workmen engaged in industrial employments, but not for agricultural labourers, so that the enormous increase in the number of members shows the development of industrial pursuits in Germany during the past 20 years. As a rule, though not always, the clubs are constituted so that in small places there is only one club for workers of all trades, whilst in the greater towns every trade or branch of industry has its own club and even in the case of certain great factories separate clubs exist for their workmen. Apart from these local clubs there are free clubs the members of which are spread throughout Germany. These free clubs are supported and administered by the workmen alone, whilst in the others the employers have to pay one-third of the contribution and therefore take part in the administration. The clubs differ very much in the number of their members. The largest club is one in Leipsic containing 136,000 members, so that every fourth inhabitant of the city and suburbs belongs to that immense club which includes every trade. Of the other large clubs there is one in Dresden with 90,000 members, one in Berlin with 72,000 members, and one in Frankfort with 68,000 members. There are also a great many clubs each of which has only a very few members. 1244 clubs have less than 50 members each and 2676 clubs have only from 50 to 100 members. With respect to the sick-rate, the statistics are unfortunately incomplete because the clubs only take note of those cases in which the members are unable to work and therefore are supported either by grants of money or by paying hospital fees for them. Members who have only required medical help for slight ailments without ceasing to work are not registered as sick. Of each 100 male members, 37·5 were registered as sick, whereas of each 100 female members only 32·1 were so registered. This difference between the sick-rate of the sexes is declared by the Office to be caused by the greater average age of the male workmen. The duration of the illness was 17·4 days on an average and the mortality, which has considerably decreased of recent years, was 0·8 per cent In 1903 on an average 3·99 marks were paid for every member for medical treatment, while in 1888 the corresponding amount was only 2·32 marks. The expenses for medical aid, medicine, hospital treatment, maintenance, &c., in 1903 were 180,000,000 marks, being 17·69 marks for every member. The sick clubs form only one part of the provision made for sick workmen; there are also, as has been explained in these columns, other institutions for sick and injured workmen, administered by other bodies and according to other principles though under the same law. It is proposed to amalgamate all the different institutions into great local bodies dealing with the whole insurance business under the workmen's insurance laws. The Minister of the Interior lately stated in Parliament that a Bill to effect that amalgamation would be introduced in about two years.

The Conveyance of Sick and Helpless Passengers on Railways.

Railway travelling in Germany for certain classes of sick and helpless persons has up to the present time been so expensive that only the wealthy could afford it. For the use of such passengers there are provided a number of special carriages which can be engaged on payment of 12 first-class fares. They are, of course, luxuriously furnished and in addition to the compartment for the patient they contain a pharmacy and compartments for a medical man, nurses, and the friends of the patient. Recently the Prussian state railways have adopted a new scheme for the conveyance of invalids at a relatively small cost, so that railway travelling is now possible for patients of moderate means. The principal feature of the system is that ordinary third-class railway carriages may be adapted for the use of invalids within 15 minutes by removing the partition which separates two compartments and thereby increasing the space available for the patient and his friends. To allow the litter with the patient to be brought into the carriage the latter is provided with folding doors and contains some material for use by the nurse in a special case. There are 60 carriages of this kind which, when not required for their special purpose, run as ordinary carriages for the conveyance of passengers. If a carriage is ordered by the public for the transport of an invalid it is sent to the station indicated, where two compartments are at once adapted for the use of an invalid, whilst the other compartments continue to be used for ordinary passengers. The amount charged is not heavy, being the equivalent of four third-class fares. A good many litters are also kept in the railway stations for the use of the public in the removal of patients from the stations to hospitals or dwelling houses and *vice versâ* at moderate charges. These litters may be placed in any third-class carriage on the condition that two tickets are taken.

May 14th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Close of the Sixth International Congress of Criminal Anthropology.

THE scantiness of the representation of the English-speaking world at this Congress evoked some remark from the delegates of other nationalities, remembering (as not a few of them did) the contributions made by British medical men to criminal anthropology when the subject was still (so to speak) knocking at the door of modern science and pleading for recognition. Certainly, at Professor Lombroso's *séance* at the "Carceri Giudiziarii" of Turin and again at the "Casa Benefica dei Giovani Derelitti," where he illustrated the several criminal types by living "object lessons" drawn from their inmates, it was felt that in some measure he was retraversing ground occupied 60 years ago by Dr. Bruce Thomson of the Perth penitentiary; just as, a little before his most interesting exposition, Signor Enrico Ferri's lecture on "Selvaggi e Delinquenti" (Savages and Delinquents), in which striking analyses were given of "Macbeth as the criminal-né, Hamlet as the mad delinquent, and Othello as the criminal of passion," was found to be little more than a supplement to the late Dr. J. C. Bucknill's studies in the medico-psychology of Shakespeare or to the late Professor Hughes Bennett's physiological commentary on *Macbeth*. Successors of those physicians, Scottish and English, might have been heard with advantage in the discussions that followed these Italian expositions if only to indicate that the British pioneers of criminal anthropology in the nineteenth century were *not without* adequate successors in the twentieth. At the next triennial Congress of the "youngest of the sciences" it is hoped that the British Isles and colonies as well as the United States of America will be represented in a manner worthy of themselves and of the subject matter. *Au reste*, the accessory features of this last Congress were such as might well have interested the English speaking participant, from the "Esposizione" of the "armamentarium" and the "bric-à-brac" of criminal anthropology already described,[1] to the "gita di piacere" (pleasure trip) in the Val d'Aosta which formed "the last scene of all." Starting some 200 strong, on a beautiful May morning, by the train leaving Turin at 7.40 the company alighted at such spots of picturesque and historical interest as Ivrea and Hône-Bard, Verrès, and the Castello d'Issogne, at all of which the *ciceroni* of the party gave clear and succinct information as to the *memorabilia* of each. Arrived at Aosta, the "Congressisti" were entertained at a sumptuous banquet in the Hôtel de Ville by the Municipio, after which began the programme of the day, Signor Guglielmo Ferrero, the historian of Rome, leading off with a lucid and lively description in the French language of the objects of interest, the Porta Romana, the triumphal arch in honour of the Emperor Augustus (from whom the town takes its name), the amphitheatre, and other monuments of the past. Visits were also made to the Collegiata di Sant' Orso, to the cathedral, and to various points, at which Signor Casalegno of the local Alpine Club drew attention to those features of the valley and the dominating mountain peaks which endear it to the artist, the nature-student, and the poet. Contemplating the snow-fields, the wooded hillsides verdant from the "eternal April" of the torrent, and the alternation of rugged rocks and green pastures of the chamois, one was haunted by the noble lines of the Cambridge scholar, man of letters, and poet of the "Elegy," Thomas Gray:—

> "Praesentiorem et conspicimus Deum
> Per invias rupes, fera per juga,
> Clivosque praeruptos, sonantes
> Inter aquas, nemorumque noctem."

Tearing themselves away from the scene, the "Congressisti" re-assembled at 6.30 P.M. in the "Politeama Bieler" to find themselves seated at a banquet of 250 "coperti" (covers), the symposium concluding with a toast list which brought the delegates of the various nationalities to their feet in proposing or in replying to the "brindisi" (healths), all of which were honoured in the "bottled sunshine" of the country. The syndic, the Cavaliere Charrez, led off with an eloquent speech, winding up with a call, heartily complied with, to drink the health of Professor Lombroso, who thereupon made a no less eloquent reply. Many other toasts followed, all of them conceived and acknowledged in the spirit of "fratellanza" proper to the republic of science, until at 8 P.M. the company rose to catch the train to Turin, delighted at the genial *finale* to an exceptionally brilliant Congress.

May 7th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Public Health Department and Personnel.

THE sanitary department has now changed its name to this new title, chiefly because public health is a better translation of the Arabic and French names constantly in use. Sir Horace H. Pinching, K.C.M.G., and Dr. W. P. G. Graham are at the head of this branch of the Egyptian Government, while three inspectors—Major C. Garner, R.A.M.C., Mr. J. Garner, and Dr. C. Goodman—divide Upper and Lower Egypt between them. Under them there are four junior inspectors—Dr. Granville, Dr. C. C. Forrester, Mr. C. M. Ekins, and Dr. P. G. S. Williams; while at present there are two temporary inspectors added to the number. An extra bacteriological assistant has been granted for work in the Hygienic Institute. Mr. E. H. Ross has succeeded Dr. A. Baker as medical officer of health at Port Said and Dr. W. C. Hayward is temporarily replacing Mr. W. B. Orme at the hospital there. In Alexandria Dr. W. A. Betts has recently been appointed in charge of the native hospital, vice Dr. Schiess Pasha, who has retired on full pay with the rank of consulting medical officer.

Hydrophobia.

Until 1899 all patients bitten by mad or suspected animals were obliged to proceed to Paris or Athens for preventive treatment, but in that year the Italian Benevolent Society established an antirabic institute in Cairo under the direction of Dr. Tonin which has done much valuable philanthropic work for Europeans and natives alike. But the alarming increase of rabid animals has now compelled the Government to take the matter into its own hands and a new institute has been erected near the offices of the Public Health Department. This building will be ready in a few days and to it suspected patients from the Government hospital and elsewhere will now be sent, while the Italian institute will be closed. The number of individuals bitten has steadily gone up from 106 in 1902 to 423 in 1904, and reached 730 in 1905 In the last year 631 were natives, 54 were Greeks, five were British, besides two Maltese, while the rest of the patients were provided by the Italian, French, German, and Austrian colonies. It must here be explained that for some years the Government has caused every bitten person, provided he is willing, to be sent to Cairo for treatment, without waiting for an opinion as whether the biting animal was rabid or not; preventive inoculation is at once begun and is continued for the usual time unless it is definitely established by experimental inoculation that the animal was not mad. Out of the 730 men, women, and children bitten last year it is believed that the animal was not rabid in 549 of the cases. Ten of the patients died from hydrophobia while the intensive treatment was being carried out and five others died during the fortnight which followed the injection period but only one person died after this date. As is usually the case, 12 of the deaths occurred after severe bites on the face, nearly all caused by wolves, while the remaining four deaths occurred after bites on the uncovered parts of the body, and not one death occurred in those people who were bitten through their clothing. The biting animals during the year consisted of 473 dogs, 16 wolves, 3 jackals, 13 cats, 3 donkeys, 3 horses, 1 mule, 2 camels, 2 monkeys, and 1 hydrophobic human being. The wolf bites are sometimes very severe, especially about the face and head, and on one occasion a patient had to have laparotomy performed because the wounds had penetrated the abdominal wall; one wolf seriously bit 36 persons before it was killed, most of whom were children. The Government has been very tardy in compelling preventive measures in Egypt but now in Cairo and Alexandria there are trained policemen who capture stray dogs and convey them in special carts to a lethal chamber and I am told that 1500 homeless dogs have been killed since December in Cairo alone. It is intended to introduce a similar staff of police into Mansura and Port Said very soon but nothing is as yet done for the smaller towns and villages where pariah dogs are allowed to multiply unchecked. No attempt has ever been made to destroy the wolves which are even more dangerous than dogs and which occasionally attack the women and children outside the villages in the early morning while they are obeying the calls of nature. It should perhaps be explained that the wolf here mentioned, often seen and occasionally hunted by English fox-hunters in the neighbourhood of Cairo, is not the true wolf (*canis lupus*), which is apparently absent from the African continent. It is, however, quite distinct from the jackal (*canis aureus*) and is probably the animal described as the Kaberu or Abyssinian wolf (*canis Simensis*), which takes its Latin name from the district of Simen in Abyssinia where the first specimen brought to Europe was obtained. It is about as large as a big sheep dog, with a long, narrow snout, and its general colour is a pale reddish brown with a tinge of yellow, but when it inhabits the desert near the Pyramids its colour becomes modified to the prevailing sand hue. This animal, like the jackal, never appears to attack man when in health and it may be assumed that almost every "wolf" bite is the result of rabies. On one occasion a wolf actually pursued an Egyptian boy into the kitchen of a large house and bit him there severely. The boy died from hydrophobia though the treatment was begun the day after he was bitten.

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[1] THE LANCET, May 5th, 1906, p. 1225.

Plague.

At the present time there are a few sporadic cases of plague in Deshna, Beni Suef, Minia, Kena, Behara, and Menoufia provinces, while it is reported that the rats are dying in considerable numbers at Port Said, so that a recrudescence of the disease there may occur. The public health inspectors all now believe in the disease being often conveyed by rats and they therefore take every means of destroying them. One of the successful anti-plague measures in Alexandria has been to disinfect thoroughly before the plague season begins those houses where plague has been present on former occasions. During the past year there were only 266 cases of this disease throughout the whole of Egypt, as compared with 855 cases in 1904; the deaths, too, fell from 501 to 181. This is the time of year when a fresh outbreak may at any time be heard of but the chief energies of the public health inspectors are still being concentrated on this one danger so that no great epidemic need be expected.

Cairo, April 26th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Life Insurance Scandals and the Medical Fees for Insurance.

THE long-continued agitation in life insurance circles in New York has had, as far as medical examiners are concerned, a wholly unexpected result. The very general newspaper agitation in all parts of the United States resulted in an inquiry held in this city under the Armstrong Act. The committee of investigation, presided over by a well-known member of the legal profession, was assisted by members of his profession, life insurance actuaries, and others. The committee sat for nearly two months and many of the sensational details were published day by day. Finally, the committee drafted a number of laws, some of a remedial and others of a very radical curative character. These, duly submitted to the authorities in Albany, the State capital, where they passed both Houses, were approved by the Governor and will become operative at an early date. The three big companies, no less than the other American companies whose methods have not been impeached, are said to be perfectly solvent and a new era of economy is inaugurated. But the services of medical men are hardly properly recognised. The past and wicked extravagance in the rush for new business is over. Under the new laws the commissions to agents, hitherto anywhere from 60 to 90 per cent. of the first year's premium, will be reduced. In the cost of new business necessarily are included the fees paid to medical examiners. Their fees have been modest and wholly inelastic; the majority of New York companies have paid their examiners a uniform fee of $5, or £1, an examination, irrespectively of any amount under $25,000, or say £5000 sterling. When that sum has been applied for examinations by two examiners were in order, each receiving the $5 fee, plus a fee of $3, or 12*s.*, to one of them for a microscopic examination of the urine. The close and faithful medical examinations of the past, through which a carefully selected line of risks was secured, naturally have resulted in a small mortality. The latter saving has enabled the companies to amass large surplus accumulations, amounting to many tens of millions of dollars. In the reduction of the fees hitherto paid to examiners by the New York companies a hardship will accrue to the medical examiners. They have not been overpaid. Upon a faithful and conscientious discharge of their duties rests the stability of the companies. The work performed by them exacts tact, experience, and special training, to say nothing of endless patience. The fees are to be reduced, such is the current belief—a reduction in fees here in this State, as well as in all parts of the United States, for the companies now under discussion. The changes now impending have produced some apprehension among the life insurance examiners of New York and of other States as well. In some distant States, notably in the South and South-West in part, county medical societies have attempted to stem the rising tide by placing new rules and regulations on their minute books, and under their respective rulings their members are informed what they shall accept as remuneration for medical examinations for life insurance companies. In other words, no member can accept less than the fee fixed by the medical society to which he belongs.

May 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

BUBONIC plague has broken out once more in Sydney, Brisbane, and West Australia. The disease was first noticed in rats and after an interval affected human beings. The health authorities in New South Wales are of opinion that the outbreak is due to a fresh infection brought by rats from over-sea. The first outbreak in Sydney occurred in 1901 when there were 301 cases and an average mortality of 30 per cent. In 1902 150 cases were reported; in 1903 only two cases; in 1904 12 cases; and in 1905 18 cases. The average mortality of all these was about 25 per cent. The last case of plague in Sydney previously was on July 12th, 1905. In December, 1905, and at intervals since up to the present, plague-infected rats have been caught, chiefly near the wharves; recently they have been found in the city. On March 11th a rat caught in a building in Kent-street was found to be infected and on March 12th a woman working there was attacked with plague. She said that a dead rat had been removed from under the seat in the workroom which she occupied. Since then three more cases have [illegible] building. Eight cases have been reported [illegible] occurred at G[illegible] proved fatal.

pneumonic form of plague were found in Perth and 25 per cent. of all rats caught were plague infected. The health authorities in all the States are urging more thorough destruction of rats. In Victoria the Board of Health has decided to enforce the regulations for shipping from other ports unless it was known that no infected rats could be found in the other States. The restrictions differ in each State and it is highly desirable that they should be uniform.

Typhoid Fever.

Typhoid fever is very prevalent at Kalgoorlie, West Australia, the local hospital being full of cases. At South Melbourne, Victoria, a case occurred in a dairy. About 40 cases have been reported in the municipality since the beginning of the year and the majority within the last fortnight. The local health officer had his suspicions aroused and made an investigation of the dairies and milk-supply. In 16 cases the milk-supply was from one dairy and there it was found that a child was ill and on investigation the illness proved to be typhoid fever. The authorities promptly stopped the sale of milk and ordered the premises to be made satisfactory. Further inquiry showed that the original source was an outbreak of typhoid fever at the country farm where the milk came from.—The principal medical officer of the Army Medical Corps of New South Wales has reported that the rifle range at Randwich was not in a fit sanitary condition for holding the usual Easter camp as a case of typhoid fever had occurred at a cottage at the entrance to the range three months ago.

Vital Statistics of Melbourne.

The population of Melbourne on Dec. 31st, 1905, was 515,350. The excess of births over deaths was 5351. The deaths from tuberculous diseases for 1805 were less than for any year since 1901, when they numbered 989 and 827 in 1905. The death-rate from typhoid fever was also low—viz., 41.

Waste of Infant Life.

At a deputation to the Queensland Government on the subject of infant life protection Dr. A. Jefferis Turner stated that "in his opinion it would be no exaggeration to say that over 80 per cent. of bottle fed babies died during the summer months in Brisbane," and Dr. Eleanor Bourne of the Brisbane Children's Hospital said that the majority of babies brought there "suffered from the effects of improper feeding and nothing else." Mr. P. E Muskett of Sydney some time ago pointed out that in 19 years up to 1902 inclusive there were 345,096 deaths of children under five years of age in Australia and New Zealand; of these, 303,070 were infants and probably 150,000 of these deaths could have been prevented.

The Delivery of Milk and Health.

A dispute between the Milk Carter's and Dairymen's Union and the New South Wales Fresh Food Company was referred to the Arbitration Court and an important decision has been given. The issues covered various conditions of work but one of the most important was a claim for only one delivery of milk on Sundays, Wednesdays, and holidays. On this question the State Children's Relief Department intervened by permission of the court and evidence was given by experts that two deliveries were necessary in the interests of public health. Dr. W. G. Armstrong, the officer of health of the metropolitan district of Sydney, stated that in 1886 the infant mortality of Sydney was 173 per 1000. Last year it was 89 per 1000. The improvement was, he thought, due to the introduction of the Dairy Supervision Act and its more stringent enforcement. Every advance in securing a purer milk-supply had been followed by a fall in infant mortality. It was most important that milk should reach the consumer as quickly as possible. At the Medical Congress in September a proposition was carried unanimously that a bi-daily delivery of milk in Australasian cities should not be interfered with in any way. Dr. R. J. Millard, assistant Government medical officer, corroborated Dr. Armstrong's evidence. He had made observations showing that milk in Sydney became acid in seven hours, soured in 12 hours, and quite curdled in 24 hours. Professor T. P. Anderson Stuart also gave evidence as to the necessity for two deliveries, as did Mr. Hamlet, Government analyst. The court decided that it was impossible to make an order binding people down not to deliver milk more than once a day. The public health was of paramount importance and time for the men must be found in some other way.

Hospital Affairs.

The board of directors of the Royal Prince Alfred Hospital held a special meeting on March 2nd to consider the question of the appointment of women as resident medical officers. Regulations prescribing the duties of such officers, if appointed, were drawn up, by which they were to be exempted from attendance on adult male patients in certain cases. Subsequently the conjoint board, consisting of the directors and the University Senate, met and decided that as Miss Aspinall went into residence with the approval of the hospital authorities she should be appointed for the year, subject to the above regulation as to her duties, but her appointment is not to be taken as a precedent. It was also decided that the whole question of the appointment of women doctors to the hospital should be considered during the present year by the conjoint board. The directors of the hospital have also been considering the whole system for appointing medical officers by the conjoint board and decided to recommend the appointment of a permanent electoral committee representative of both the senate and the directors which would submit recommendations for the approval of the conjoint board.—At the Sydney Hospital Dr. W. O. Maher, Dr. E. J. Jenkins, Dr. D. S. Bowker, and Dr. T. S. Kirkland were re-appointed to their respective positions on the honorary medical staff for a period of four years.—The committee of the Women's Hospital, Melbourne, has decided to establish a pathological laboratory and to appoint a pathologist to make chemical examinations and to attend on operation days or when required by the staff.—At the annual meeting of the King Edward Seamen's Hospital, Sydney, the annual report showed that 73 indoor and 375 outdoor cases had been treated.—The report of the Carrington Centennial Hospital Home for Convalescents read at the annual meeting stated that 1376 patients had been treated, of whom 1241 were restored to health and 40 were much improved. The committee thought that all the large and well-managed hospitals should be under one committee and that some sort of hospital tax should be imposed for their maintenance.

Balmain Friendly Societies' Dispensary.

Another difficulty has arisen between the Balmain Friendly Societies' Dispensary and its medical officers and the latter have resigned in a body. Their resignation has been accepted and three new men have been appointed.

Obituary.

A very old medical identity has been removed from Victoria by the hand of death in the person of Dr. John Blakemore Phipps who had practised for over 40 years at Lancefield but retired some years ago. He was the son of a medical man and graduated at Edinburgh. He served in the Crimean war and at its close went to Victoria and settled at Lancefield. He was a member of the first local council, was a Justice of the Peace, and coroner for the district. He was 79 years of age. One of his daughters married Mr. J. T. Chapman of Yarra Glen.

Syme Research Prize.

The David Syme research prize of £100 and a medal at the Melbourne University has been awarded to Dr. E. H. Embley for a thesis on the Action of Anæsthetic Quantities of Chloroform upon the Blood-vessels of the Bowel and Kidney and a report on the Pharmacology of Ethyl Chloride.

March 29th.

Obituary.

GEORGE APPLETON, M.R.C.S. ENG., L.S.A.

Mr. George Appleton died at his residence, Park Braws, the Lizard, Cornwall, on May 11th, in his eighty-fifth year. The deceased, who received his medical education at Guy's and St. Thomas's Hospitals, took the qualifications of M.R.C.S. Eng. and L.S.A. in 1843 and 1844 respectively. Shortly after qualifying he was appointed surgeon on one of H.M. troopships, in which he went to India. Returning later in ill-health he took up his residence at St. Keverne, Cornwall. He continued there for some time and many years ago commenced practice at the Lizard and continued in active work there until four years ago. Mr. Appleton had many friends and was highly esteemed. He interested himself in all good works for the benefit of the residents of the Lizard and it was mainly through his efforts that the Lizard reading-room was built. He was for many years vice-chairman of the Helston board of guardians. He was a staunch Churchman. Mr. Appleton leaves three sons with whom much sympathy is felt.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the third examination for medical and surgical degrees, Easter term, the following candidates were successful:—

Part II., Surgery, Midwifery, and Medicine.—J. D. Barris, B.A., Caius; H. J. Clarke, B.A., Trinity; R. P. Cockin, B.A., Caius; R. M. Courtauld, M.A., Pembroke; W. I. Cumberlidge, B.A., Christ's; R. Davies-Colley, B.A., Emmanuel; J. R. Draper, B.A., St. John's; C. F. Fothergill, B.A., Emmanuel; A. Goulston, M.A., and W. B. Grandage, B.A., Clare; M. Grundy, B.A., St. John's; C. R. F. Hall, B.A., Trinity; G. H. Harper-Smith, B.A., Caius; C. King, B.A., Trinity; S. G. MacDonald, B.A., St. John's; J. McIntyre, B.A., King's; J. T. Macnab, B.A., Christ's; E. H. Mayhew, B.A., and A. W. Moore, B.A., Emmanuel; W. L. Murphy, M.A., St. John's; A. S. M. Palmer, B.A., Jesus; W. H. Robinson, B.A., Downing; C. Stanley-Clarke, B.A., and F. J. Thornton, B.A., Caius; J. H. Trench, B.A., Trinity; A. Walker, B.A., Emmanuel; G. L. Webb, B.A., Caius; C. J. Wilson, B.A., Christ's; H. W. Wiltshire, M.A., Clare, and F. Worthington, B.A., St. John's.

—At the Congregation on May 10th the following degrees were conferred:—

M.D.—G. H. Orton, Trinity; and E. A. Ross, Trinity.
M.B. and B.C.—L. G. Davies, Trinity; and E. H. Mayhew, Emmanuel.
M.B.—N. C. Fletcher, Queens'.
B.C.—C. King, Trinity; J. R. Draper, St. John's; and F. Worthington, St. John's.

—Professor G. Sims Woodhead has been appointed a governor of Cheshunt College.—Professor Newton, F.R.S., has been appointed a manager of the Balfour (Animal Morphology) Fund.—Mr. W. M. Mollison, M.A., Clare, has been approved for the M.C. degree.—The scheme for the Quick Professorship of Biology has been approved by the Senate, and Professor Sims Woodhead, Mr. A. Sedgwick, Mr. A. E. Shipley, Dr. Langley, Mr. J. J. Lister, and Mr. F. F. Blackman have been appointed the first managers of the fund and electors to the chair.—The grace for the exemption of students in science (including mathematics) from the obligation to study both classical languages will be voted upon on May 25th and 26th.—It is proposed to appoint Dr. G. H. F. Nuttall, F.R.S., to a newly established Readership in Hygiene in connexion with the Special Board for Medicine.—Mr. W. J. Sell, F.R.S., University lecturer in chemistry, has been approved for the degree of Doctor of Science.—Mr. F. T. Brooks, Emmanuel, has been appointed junior demonstrator of botany.—The University library has received a gift of £5000 from the Worshipful Company of Goldsmiths. —The department of agriculture has received promises of contributions amounting to £9000 towards the cost of erecting new buildings.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the May sittings for diplomas in Public Health held in Glasgow the following candidates passed the respective examinations:—

First Examination.—John Hunter, Musselburgh, Alexander Edington, Edinburgh; Frederick E. Stokes, Crosshill, Glasgow; George Broadfoot Serle, Singapore, Straits Settlements; and Edward Percy Calder, Coldingham, Berwickshire.
Second Examination.—David Robertson Dobie, Crieff; Murdoch Macdonald, Shettleston, Glasgow; Alexander Edington, Edinburgh; George Broadfoot Serle, Singapore, Straits Settlements; Frederick Ernest Stokes, Crosshill, Glasgow; William Hamilton Simpson, Scalby, R.S.O., Yorkshire; and John Alexander Kennedy, Bearsden, Glasgow.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. H. J. Brongersma has been recognised as *privat-docent* of Urology.—*Bologna:* Dr. Silvio Tonnini of Messina has been appointed to the chair of Mental Diseases in succession to Dr. Roncati, resigned.—*Budapest:* Dr. Josef Arkövy has been appointed Extraordinary Professor of Odontology. Dr. Arnold-Winternitz has been recognised as *privat-docent* in Surgery.—*Copenhagen:* Dr. Fr. Pontoppidan has been recognised as *privat-docent* of Otology.—*Cracow:* Dr. Emil Godlewski has been promoted to an Extraordinary Professorship of Anatomy and Embryology.—*Halle:* Dr. A. Stieda has been recognised as *privat-docent* of Surgery. —*Marburg:* Dr. Hermann Küttner, Extraordinary Professor of Surgery, has been promoted to an Ordinary Professorship.—*Montreal (McGill University):* Dr. J. W. Stirling has been promoted to the Chair of Ophthalmology in succession to the late Professor Frank Buller.—*Munich:* The rank of Professor has been granted to Dr. F. Bezold, Extraordinary Professor of Otology.—*Naples:* Dr. Filippo Bottazzi has been appointed Extraordinary Professor of Experimental Physiology.—*Philadelphia:* Dr. Edw. Anthony Spitzka has been elected Professor of General Anatomy at Jefferson Medical College.—*Pisa:* Dr. Arbace Pieri has been recognised as *privat-docent* of Psychiatry.—*Rome:* Dr. Amico Bignami has been promoted to the Ordinary Professorship of General Pathology.—*Vienna:* Dr. Alois Kreidl has been granted the rank of Ordinary Professor of Physiology.

PROPOSED PUBLICATIONS ON SMALL-POX BY THE METROPOLITAN ASYLUMS BOARD.—The Metropolitan Asylums Board decided some months ago to publish two works on the subject of small-pox—viz., "The Diagnosis of Small-pox" and "Small-pox and its Relation to Public Health," and made the usual application to the Local Government Board for sanction to the necessary expenditure. At a meeting of the board on May 12th a letter was read from the Local Government Board in reference to the proposal, stating that it had no authority to express an opinion as to the legality of any expenditure in connexion with the publications mentioned, but that it was a question which the auditor must determine in the first instance and that it considered that the best course for the managers to take would be to arrange for the publication of "The Diagnosis of Small-pox" by a publisher at his own risk. It also suggested that the question of publishing a book on "Small-pox and its Relation to Public Health" should stand over until after the book on "The Diagnosis of Small-pox" had been issued. The communication was referred to the hospitals committee for consideration and report.

THE JUBILEE DINNER OF THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The members of the Incorporated Society of Medical Officers of Health dined at the Hotel Cecil on Friday last, May 11th, Sir Shirley F. Murphy, President of the society, presiding. The occasion was the jubilee of the society. An interesting account of the foundation and work of the society had been previously given in an address by Sir Shirley Murphy, which will be found in another column of THE LANCET. Among the visitors present were Sir R. Douglas Powell, President of the Royal College of Physicians of London, Mr. John Tweedy, President of the Royal College of Surgeons of England, Baron Kanehiro Takaki, Mr. Evan Spicer, chairman of the London County Council, Surgeon-General Keogh, Director-General of the Army Medical Service, Sir William H. Broadbent, Sir James Crichton-Browne, Sir Michael Foster, Sir T. Lauder Brunton, Sir John McFadyean, Sir Patrick Manson, Sir Melvill Beachcroft, Sir H. Seymour King, M.P., Dr. F. W. Pavy, Dr. J. F. W. Tatham, and M. Henri Monod. In proposing the toast of "The Houses of Parliament" Mr. Tweedy said that no section of the country had a more intelligent appreciation of the importance of public health than those who represented the working men in the House of Commons. They represented not only labour but the sturdy thought of the working people and they thoroughly recognised the work which had been done by public health officers. Sir Seymour King, in responding. suggested that the President of the Local Government Board should be elected by the Society of Medical Officers of Health, and the proposal has more sound sense in it than perhaps the speaker realised. The toast of "Local Government" was proposed by Sir Michael Foster, who said that the training of medical officers of health was necessarily most complicated. It was long, wide, and varied, and the emoluments should be such as would justify the long training which was necessary. A medical officer of health should have adequate powers given him to carry out the measures which his training suggested as being applicable to particular circumstances. Mr. Evan Spicer, chairman of the London County Council, who responded, spoke of the gratification of the County Council in seeing the presidential chair of the society occupied by Sir Shirley Murphy, whose work in the interests of public health would always be appreciated by the members of the council. Sir James Crichton-Browne, in proposing the toast of "The Society of Medical Officers of Health and their Jubilee," spoke of medical officers of health as thorough-going protectionists who were safeguarding the public weal by prohibiting the importation of disease. During the past half century the society had been identified with every advance in the science of preventive medicine and he trusted that before long it would obtain a Royal Charter and the patronage of the King. In associating with the toast the name of the President of the society he referred to the public health work during the past 30 years of Sir Shirley Murphy whom he described as first a pioneer, then a leader, and now a generalissimo. Sir Shirley Murphy, in response, said that without the society the medical officer of health would be a less efficient person than he is. Their work was making progress in efficiency and in influence and it behoved them to see that they did not disappoint expectation. It was especially gratifying to find that from all quarters of the world their assistance was sought. Dr. Pavy also responded and said that although 50 years ago they knew nothing of bacteria yet they had vague notions of disease germs; he also referred to the early days of the society, the first meeting in connexion with which was held in his house. "The Visitors" was proposed by Dr. Arthur Newsholme and Baron Takaki, in responding, spoke of the admiration entertained by the Japanese for the British methods of public health administration, though in one respect they were not slavish followers of this country, for they were great believers in the efficacy of vaccination. There were no anti-vaccinationists in Japan. Every child was vaccinated before it was six months old, revaccinated when it entered school at six years, again revaccinated at 14 years when going to the middle school, and the men were revaccinated before entering the army, while a further revaccination was enforced if an outbreak of small-pox occurred. Sir R. Douglas Powell also very briefly replied. A band played during dinner and afterwards songs and recitations were given. The company did not separate till a late hour, all present agreeing that the jubilee dinner of the society had been a great success.

ABUSE OF MEDICAL CHARITIES IN NOTTINGHAM.—A large and representative meeting of the profession in Nottingham and the neighbouring district, convened by the Nottingham Medico-Chirurgical Society and the Nottingham division of the Midland branch of the British Medical Association, was held on May 9th, under the presidency of Mr. T. J. Dabell, when the following motion, proposed by Dr. W. Tibbles and seconded by Dr. W. B. Ransom, was brought forward, discussed, and carried unanimously:

> That abuse exists and that this meeting invites the governors of the respective charities in Nottingham to consider what steps can be taken to prevent it.

Dr. Tibbles, in proposing the motion, attributed the increasing abuse of hospitals to (1) indiscriminate distribution of letters of recommendation; (2) the increasing desire for pleasure and luxury amongst the masses, necessitating economies in other directions, such as medical attendance: and (3) the expansion of the hospitals themselves, the increase of their staffs, and the creation of new and additional institutions. The number of patients treated at the various charities in Nottingham had increased from 24,668 in 1885 to 45,147 in 1904, the latter figure being about 20 per cent. of the entire population of Nottingham. Thus at the same rate of increase the numbers would be actually doubled in 22 years, while the increase of population did not exceed 25 per cent. Until some system of inquiry was established neither the governors nor anyone else would have any means of determining the social status and financial position of the vast majority of those who were treated by them. Many striking examples were then given of abuse of the charities and at one institution the poorer patients said that they felt ashamed to sit alongside the very respectable persons who waited their turn for treatment. Others drove up in cabs, which were kept waiting while the patient attended his medical adviser and then returned to his home or employment. In some cases tradespeople gave away to their customers recommendations to the various charities as an inducement to the sale of their goods. Dr. Ransom, in seconding the motion, traced the various steps of a similar movement on the part of the profession in Nottingham eight years ago, which unfortunately achieved nothing. The agitation had then dropped with the understanding that an inquiry officer would be appointed as soon as the out-patient department had been rebuilt and remodelled. This understanding had never been carried out, although the alterations then contemplated had since been completed.—The President pointed out that if the meeting had the result of directing the funds subscribed by the charitable into what were more eligible channels, it would not only safeguard the medical profession but do a service to the cause of charity generally.—Dr. J. A. Waring laid stress on the fact that many persons were ignorant of the fact that hospitals were intended for free treatment and went there fully meaning to pay something.—Dr. W. Hunter, Dr. J. S. Bolton, Mr. G. B. Wray, and Dr. T. W. Kelly also joined in the discussion.—The following motion, which was proposed by the President and seconded by Dr. Lewis W. Marshall, was also carried unanimously:—

> That this meeting begs to suggest that some system of inquiry be made into the financial status of every person presenting himself or herself for treatment, in order to ascertain if they are suitable recipients of medical charity. The meeting desires also to express the opinion that the present system of recommendations is of doubtful value and should be modified.

This motion was spoken to by Mr. R. C. Chicken, Dr. Ransom, Dr. J. F. Blurton, Dr. Hunter, and Dr. Waring.

MEDICAL MAGISTRATE.—Mr. David Denzil Harris, M.B., C.M. Glasg., has been placed on the commission of the peace for the borough of Carmarthen, Wales.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. A. G. B. Lory, L.S.A., on relinquishing his practice at Chudleigh, Devon, was recently presented by the members of the Loyal Chudleigh Lodge of Oddfellows with a Dent's clock as a token of their esteem and respect for his services as their medical officer for a period of more than 11 years. The clock was suitably inscribed.

QUEEN VICTORIA'S JUBILEE INSTITUTE FOR NURSES.—Satisfactory progress, the report of this institute states, has been made during the year 1905. The affiliated associations and the nurses at work continue to increase steadily year by year. Two new county nursing associations, in Herefordshire and Berkshire, have been affiliated and the work in each of the existing affiliated county associations has been extended. The demands on these associations as well as on the institute for trained midwives for country districts have been more numerous owing to the Midwives Act of 1902, which is now come into operation. Throughout the year the council has been endeavouring to provide for the serious deficit in the income of the institute which will take place in 1906. This is due to the exhaustion, save for a small sum, of the capital provided by the Queen's Commemoration Fund of 1897 which was to be expended in promoting the extension of the work. With the disappearance of this fund the council is faced with a deficit of some £2000 a year. Every effort has been made to reduce expenditure, but with the ever-increasing roll of affiliated associations and the consequently growing liabilities in the direction of inspection and training of nurses it is impossible to curtail expenses to any great extent without serious detriment to the efficiency of the work.

SOUTH LONDON DISTRICT NURSING ASSOCIATION.—Princess Louise Duchess of Argyll, the President of the South London District Nursing Association, supported the Lord Mayor at a meeting at the London Mansion House on May 9th in aid of the above association. The committee, in its twenty-second annual report, stated that the number of patients last year was 2176, while the visits paid to the sick poor in their homes numbered 44,222. Of the 2111 cases sent in during the year 1153 were by medical men and 43 by hospitals, 391 by ministers of religion, 486 by patients' friends, and 34 by the Charity Organisation Society. Canon Erskine Clarke (the chairman of the committee) proposed a motion calling upon the charitable public to support the work of the association. The motion was seconded by Mr. T. F. Schwann (the honorary treasurer) and adopted. Sir Joseph Dimsdale proposed a motion approving the principle of nursing the sick poor in their own homes. This was seconded by Sir William H. Bennett, K.C.V.O., and supported by Archdeacon Wilberforce and carried unanimously. A hearty vote of thanks to her Royal Highness for her great practical sympathy with the aims and objects of the association and also to the Lord Mayor terminated the meeting. Tea was subsequently provided by the Lord Mayor in the long parlour.

Parliamentary Intelligence.

HOUSE OF LORDS.

FRIDAY, MAY 11TH.

Poisons and Pharmacy Bill.

In the House of Lords on Friday, May 11th, the report of amendments made by the Standing Committee on the Poisons and Pharmacy Bill was received. Further amendments were now moved.

Clause 4 provided that "No body corporate shall carry on the business of a pharmaceutical chemist or chemist and druggist unless in every premises where the business is carried on the business is *bonâ fide* conducted by a manager or assistant being a duly registered pharmaceutical chemist or chemist and druggist, as the case may be, nor unless the name of the person so qualified is conspicuously exhibited in the shop or other place in which he so conducts the business; subject as aforesaid anything which would be an offence under Section 15 or Section 17 of the Pharmacy Act, 1868, if committed by an individual, shall be an offence under those sections if committed by a body corporate: Provided that notwithstanding anything in this section a body corporate may continue to use any description which it was accustomed to use before the 1st day of April, 1906."

Lord EBURY moved to leave out all the words after "business" and to insert instead: "and any body corporate carrying on such business and failing to comply with the provision of this section shall be guilty of an offence under Sections 15 and 17 of the Pharmacy Act, 1868, and liable to the penalties therein mentioned" He said that large businesses for retailing drugs had developed very much within the last 30 years, as retail chemists had charged such high prices. The companies had been able to undersell the ordinary retail chemists and to obtain a satisfactory return on capital. The retail chemists and the Pharmaceutical Society had been endeavouring for some years by Bills and by "*peaceful persuasion*" in the lobby to induce the legislature to put a spoke in their rivals' wheel. Finally, they had had the good fortune so far to enlist the sympathy of the Earl of Crewe as to induce him to insert this clause in this Bill which contained little else of a contentious nature. He thought the adoption of the first seven lines of the clause was expedient in order to settle by statute the position of companies which had hitherto rested on a common law basis. But the latter part of the clause, by invoking certain sections of the Pharmacy Act of 1868 and by reversing the legal decision in their lordships' House, pronounced in 1880, deprived all corporate bodies of the right of describing themselves as chemists. He claimed the right to the designation for all companies selling drugs through qualified assistants If the business was conducted in accordance with the first part of this clause a complete guarantee was afforded for the public safety. It was of no consequence whether the owner was an individual, a partnership, or a joint-stock company. The designation of chemist and druggist was necessary to attract the attention and to gain the confidence of customers The title should not be given to one class more than another, in view of the fact that they all employed adequate skill and knowledge in the conduct of the business. What was proposed was not only protection but protection in an injurious form. The chemist who served a company had passed a qualifying examination just the same as the chemist who traded individually.

The Earl of LICHFIELD, who seconded the amendment, said that in committee the noble Earl in charge of the Bill had altered the clause in such a way that in future it would be impossible for corporate bodies to call themselves by the name of chemists. From time immemorial they had been able to call themselves by this designation. In 1880 the House of Lords decided that it was competent for them to do so. The Pharmaceutical Society claimed that the word chemist should be a personal one and should only apply to those who had passed the necessary examination. But under the Act of 1868 every company was obliged to keep a qualified manager in every shop it owned and therefore the safety of the public was as well preserved in the case of companies as in the case of individuals. Great sums of money had been invested in the business on the strength of the existing law and he wanted to know what harm the companies had done in the exercise of their rights. The clause would vexatiously affect trade and it was not in the public interest that a privileged class should be established and companies debarred from using the name chemist.

The Earl of CREWE said he gathered from the speech of the noble lord and the amendment that this was a matter that had been in dispute for many years between the Pharmaceutical Society and the companies and it might really be described as a storm in a teacup, though those interested in the question considered it a matter of primary importance. The Act dealing with chemists and druggists was that of 1868 and it made it unlawful for any person to use the words "chemist and druggist" unless he was a person qualified by examination. Since that time no alteration of practice had been made in the law, but companies had sprung into existence, many of them very large concerns, and no doubt they had been of distinct service to the public by creating a healthy competition, for they had to a great extent lowered the price of drugs The chemists said the Act of 1868 conferred upon them a distinct assurance of title, they regarded the title as absolutely applying to the individual and contended that it should not be used by a company which had not passed any examination On the other hand, the companies pointed to their excellent public record and the fact that they employed a qualified chemist in each shop and therefore the public had no further interest in the use of the term; in fact, it was a sort of domestic matter between rivals in trade The simple issue was this, was a chemist an ordinary tradesman, like a butcher or baker, or was he in the position of a man who had taken a degree, and therefore alone entitled to the use of the title? That really was the whole point at issue. He admitted there was a great deal to be said on both sides, but on the whole he had arrived at the definite conclusion that these titles, under the Act of 1868, were personal, that to some extent they were in the nature of a degree or qualification and ought not therefore to be attached to any name except that of the man who had actually earned them. If that were so it destroyed the two principal arguments of noble lords opposite, because if a title was a personal matter no one else was entitled to the use of it. People took a distinct pride in the possession of these titles of pharmaceutical chemists and naturally did not like to see persons who had not been through the mill as they had using these distinctions when they had not earned them. They were told that an enormous injury would be inflicted upon these large companies if they were not allowed the use of the title of chemist, a title by which the public were attracted rather than by the title of "druggist" or "dealer in medicine." For his part he did not consider that that was a point of difficulty, as he believed that the public were guided more by the particular kind of shop and were drawn to the shop at which they had been in the habit of dealing With regard to companies he believed that the public were attracted more by the appearance of the place, by the obvious business like manner in which the shop was carried on, as was the case in many of these companies, rather than by the name over it, and therefore would prefer to go to one of these brilliant stores where they might be sure of getting the proper thing than going to some frowsy looking shop with the word "chemist" over the door. He therefore thought that the injury these companies said they would receive by the loss of these titles was enormously exaggerated. On the other hand, no doubt they would suffer in a different way. No doubt in many cases, and one case in particular, they had adopted the title of "chemist" on the shop-front and if this Bill passed as it stood those shop-fronts would have to be abandoned and a very considerable number of labels would have to be sacrificed This fact, of course, gave them a claim to a considerable time limit in which to minimise the injury Consequently he should be prepared to propose a time limit of seven years which he thought would be sufficient to meet the case

Viscount ST. ALDWYN said that undoubtedly the injury inflicted upon these companies would be very great if the Bill were passed as it stood. He had been informed that there was one company in existence which had as many as 320 shops throughout the country at which 4000 qualified assistants were employed and the capital embarked amounted to £1,300,000. The expenditure of this company upon shop-fronts and other things on which the word "chemist" appeared had been considerable and by the passing of this Bill this company would lose between £30,000 and £40,000. That, he submitted, was a fine of a very large amount to impose upon a body that was doing no more than an admirable work for the benefit of the public at large. He was quite sure their lordships would not desire to do anything that would be unfair to existing companies and fine them so heavily as he had described. The amendment before them, however, raised a larger and wider issue, it raised the whole question of not only whether existing companies should be allowed to maintain their position, but whether future companies should be allowed to enter into competition with them The noble earl had referred to past history. The Act of 1852, which he believed was a Government statute, in this matter certainly forbade, in accordance with previous legislation, the use of the title "chemist and druggist" to anyone not qualified by passing an examination. But the Act also forbade any person not so qualified from even opening a shop. Now, however, the noble earl did not intend to prevent these companies from keeping open shop in the future; that was not a provision that would commend itself to this House or the Government, but what the noble earl allowed was the keeping open shop, forbidding them to use the title "chemist and druggist" after a certain number of years. What the noble earl proposed was that a person carrying on the business should not be allowed to call himself by the proper title applicable to the business An individual might have 30 shops with an assistant and he could continue the business.

The Earl of CREWE: Provided the assistant was a qualified man.

Viscount ST. ALDWYN said he was advised that the noble earl's proposal would only apply to companies and not to individuals. But what was the history of this matter? He knew a good deal about it, because when he was a member of the other House he was approached by certain of his constituents to forbid the competition of companies in the sale of drugs. He replied that that was a monstrous proposal and he was then asked if he would compel every director of a company to be a qualified pharmaceutical chemist. He admitted that was less objectionable. The fact was that the Pharmaceutical Society had been desirous throughout to secure a trade monopoly for their own benefit and to the public injury by the keeping up of prices Was it possible that a free trader like the noble Earl would attempt to establish a monopoly in order to further the protectionist desires of the Pharmaceutical Society?

Lord STANLEY of ALDERLEY said it seemed to him that the name "chemist" was like that of an old-established firm, a trade name, and therefore he could not see why they should seek to take it away from a company which employed qualified men to carry on the business.

The Marquis of RIPON said it appeared to him to be a misuse of terms to allow companies composed of large bodies of shareholders to use the words "chemist and druggist." The loss that would be occasioned would no doubt be very large, but he thought it was greatly exaggerated, as those who were concerned in matters of this kind always estimated their losses very highly. His noble friend recognised that there would be a loss and he gave them seven years in which to recoup themselves so far as possible. In his opinion it was far better that a name in which the public had confidence should be confined to those persons who had undergone a proper examination.

Lord BELPER said he would ask whether it was the case that the title of pharmaceutical chemist was really kept up as a personal one. In this Bill it was laid down that the executor of the estate of a deceased chemist could continue the business as long as it was conducted by a registered pharmaceutical chemist or chemist and druggist. The executor did not require to be a chemist itself. Yet the clause would prevent a company employing such a chemist from describing itself as chemist. As far as he could understand the companies had carried on their business exceptionally well, so much so that the public had come to look on them as a necessity. A very large number of petitions had been signed by the customers of those companies who were perfectly satisfied and wished the business to be carried on in the same way as hitherto Why should not an association of individuals be allowed to carry on a business in the same way as a pharmaceutical chemist who did not himself attend to his business so long as the public were assured that the business was properly conducted?

The Earl of CREWE said that he did not mean to provide by the Bill that executors should be allowed to carry on under a particular name with the word chemist attached unless that chemist still existed. He would be glad to add words to the Bill to prevent that.

Their lordships divided.

For the amendment	38
Against	32
Majority for	6

The amendment was accordingly carried.

Lord LAWRENCE moved to leave out Clause 7 which provided that the Bill should not apply to Ireland and to insert the following clause:—

7. This Act, except Sections 3 and 4 thereof, shall apply to Ireland subject to the following modifications —

(a) For references to the Pharmacy Acts, 1852 and 1868, or either of them, there shall be substituted references to the Pharmacy Act (Ireland), 1875, and the Poisons (Ireland) Act, 1870, Pharmacy Act (Ireland), 1875, Amendment Act, 1890 and for references to particular provisions of the first-mentioned Acts shall be substituted references to the corresponding provisions of the last mentioned Acts, and in particular for the reference to Schedule A to the Pharmacy Act, 1868, shall be substituted a reference to Schedule A to the Poisons (Ireland) Act 1870 and for the reference to Section 2 of the Pharmacy Act, 1852, shall be substituted a reference to Section 16 of the Pharmacy Act (Ireland), 1875

(b) For the reference to the Council of the Pharmaceutical Society there shall be substituted a reference to the Council of the Pharmaceutical Society of Ireland

(c) For references to Orders in Council by His Majesty there shall be substituted references to Orders in Council by the Lord Lieutenant

(d) Section 17 of the Pharmacy Act (Ireland), 1875, Amendment Act, 1890, shall apply where the persons keeping open shop are a company

said that Irish agriculturists had not the same facilities as those in gland for purchasing poisons required in their industry Irish icultural societies were unanimously in favour of the clause he posed and the only opponent was the Pharmaceutical Society of land That society had a monopoly and it was not in the public erest that that monopoly should be continued

he Earl of DONOUGHMORE said that when the Bill was before the ouse on a previous occasion an amendment of his excluding Ireland s carried. The Bill was founded on a report of a Departmental mmittee appointed by the late Government. Ireland was in no way erred to that Committee and no evidence was taken as to the condi n of affairs in Ireland. He believed that this was a case in ich Ireland was very much better governed than England. der the Act of 1868 no one could sell poisons of any nd unless he was a registered chemist. This was incon nient in regard to poisons for agricultural purposes This evil s recognised in Ireland 15 years ago and the Act of 1890 was passed which the Pharmaceutical Society was given power to license uggists to sell poisons for agricultural purposes only but without erty to make up poisons for medicinal purposes. There were 1567 rsons in Ireland licensed in this way and they were to be found in arly every town and village of any importance. He had seen a list 130 places which were supposed to need further accommodation but had been carelessly drawn up and was inaccurate. He knew several aces which were on the list and which in reality had persons licensed sell poisons The Irish Cattle Traders Association had circulated pers among their lordships in which it said that the dangers of eep scab would be augmented if the Bill passed as now drafted. It as, however, quite obvious that the Bill would not cause the slightest iminution in the number of persons qualified to sell poisons in eland The law would remain as it now was The 1500 censed people all appeared to be genuine chemists and they erfectly met the convenience of the public. It would be ery unwise to have a system under which some druggists would be censed by the Pharmaceutical Society and some by the county ouncils. A conflict of authority would arise and it would be difficult prevent the power to sell falling into the hands of unqualified ersons.

The Earl of MAYO supported the amendment. Ireland, he said, was purely agricultural country and if it wanted one thing more than nother it was facilities for getting poisonous sheep-dips and other oisonous compounds Surely the views of societies like the Irish attle Traders and Stockowners Association should be entitled to some eight. The departmental committee, to which reference had been nade, had stated that in modern times these sheep-dips, usually con aining strong poisons, had come into universal use and were indis ensable to sheep farmers. Unluckily sheep scab was very common in reland and in some districts it was almost impossible to get these dips It was all very well to say that there were 1500 people who sold them, out what was that in a population of 4 000 000? It was absolutely necessary that the Bill should apply to Ireland.

The Earl of CREWE said that he had discussed the subject with many gentlemen since the last occasion when the Bill was before the House and he had gathered that the Irish were of opinion that Ireland should be included in the Bill. He confessed that he had not contemplated that this matter would come up again but he had not the least doubt that the clause would have been re-introduced in the House of Commons In the circumstances he did not feel called upon to oppose the amendment.

The Marquis of LONDONDERRY thought that the Earl of Crewe had shown a remarkable change of front. He still thought that it would be unwise to include Ireland but he would advise the Earl of Donoughmore not to press his opposition

The amendment was agreed to and this closed the discussion on the Bill.

HOUSE OF COMMONS

WEDNESDAY, MAY 9TH

Infant Mortality A Conference.

Mr ALDEN asked the First Lord of the Treasury whether, in view of the fact that the report of the *Registrar-General* indicated a serious condition of things as regards infant mortality in certain large industrial towns and areas, he *would* consider the advisability of appointing a departmental committee to investigate the causes of such mortality, with power to call for special reports from, or institute inquiry into the towns and areas concerned.—Sir HENRY CAMPBELL-BANNERMAN replied: I am fully alive to the importance of this question, and as my honourable friend will see from an answer which I gave yesterday, the Local Government Board is taking active steps to ascertain the causes of excessive infant mortality with a view to the adoption of remedial measures. I may mention that a conference which will be attended by a large number of representatives of municipalities is shortly to be held to consider the whole question, and I understand that it is to be presided over by my right honourable friend the President of the Local Government Board. I do not think that, in these circumstances, it is necessary to appoint a departmental committee.

The National Physical Laboratory

Mr. WILLIAM PEARCE asked the Secretary to the Treasury whether commercial tests, chemical or physical were being undertaken at the National Physical Laboratory or were included in the circular of charges of the laboratory; and, if so, whether such competition with private practitioners would be stopped, as being contrary to the recommendations of the Treasury Committee in 1895 and to the declared objects of the laboratory.—Mr M'KENNA answered Except for Government work and for some few special cases which come individually before the committee chemical analyses are only undertaken by the National Physical Laboratory when required to elucidate some physical or mechanical question under investigation The average number of chemical tests of all kinds during the past three years has been 39 The number of physical tests made and of instruments tested has averaged nearly 30,000. Physical tests, including tests on instruments, are undertaken in accordance with the recommendation of the Treasury Committee of 1895, establishing the laboratory as a public institution "*for standardising and verifying instruments, for testing materials, and for the determination of physical constants.*" The members of the Treasury Committee with one exception became original members of the Executive Committee, and they have been careful to keep their work within the terms of the report. The committee is *fully* prepared to consider any complaints which may be made as to the nature of the testing work done and its rates of charges

THURSDAY, MAY 10TH.

Aliens and Infectious Disease.

Mr CLAUDE HAY asked the Secretary of State for the Home Department how many aliens suffering from infectious disease were last year treated at the port sanitary hospital at Denton, Gravesend, and what expenditure was incurred in their treatment Mr Hay also asked the Secretary of State for the Home Department whether aliens who had been treated for infectious disease at the port sanitary hospital at Denton, Gravesend, were, when discharged as convalescent, examined by an immigration officer as alien steerage passengers coming within the scope of the Aliens Act or were discharged from the hospital without such examination—Mr. GLADSTONE said Perhaps I may answer these two questions together I am informed by the town clerk of the City that the number of aliens suffering from infectious diseases who were treated at the port sanitary hospital at Denton near Gravesend during the year 1905 was 36 and the proportion of expenditure incurred in the treatment and maintenance of such aliens was £485. This expenditure is borne entirely by the Corporation of London out of its corporate *funds* and not by the rates. No charge is made either to shipowners or patients. Any such alien who was *liable* on his arrival in this country to inspection under the Aliens Act has, by virtue of Rule 9 made thereunder, to be inspected before release from hospital.

An Irish Contract for Medicine

Mr POWER asked the *Chief Secretary to the Lord Lieutenant* of Ireland for what reason the Local Government Board of Ireland refused to sanction the action of the Kilmacthomas board of guardians in giving the contract for the supply of medicine to the union to Messrs Boileau and Boyd of Dublin, a well known firm; whether he was aware that Messrs Boileau and Boyd's tender was only 1¼ per cent. higher than the tender of Messrs Sumner of Liverpool; and that the Local Government Board sanctioned the action of the Dungarvan board of guardians, who gave the contract *for the supply of medicines* to Messrs. Boileau and Boyd, though in the case of Dungarvan the tender of Messrs. Boileau and Boyd was 1¼ per cent. higher than *the tender of* Messrs. Sumner—Mr. BRYCE replied The board of guardians of Kilmacthomas union advanced no reason for its proposal to accept the higher tender and upon its attention being called by the Local Government Board to its regulation on the subject the guardians decided to accept the lower tender The Dungarvan board of guardians advanced good *reasons* for not accepting the lower tender and the Local Government Board accordingly assented to its application that it might accept the higher tender

FRIDAY, MAY 11TH.

Reform of the Royal College of Surgeons of England.

Sir WILLIAM COLLINS asked the First Lord of the Treasury whether he would be *prepared* to consider a petition having *for* its object a reform of the Royal College of Surgeons of England with a view to giving some voice in the management of the College and its property to the Members of the College—Sir HENRY CAMPBELL BANNERMAN replied I shall be glad to consider any petition which my honourable friend may send me. But, as he is no doubt aware, any change in the *constitution* of the Royal College of Surgeons of England can only be carried out by legislation unless such change has the support of the governing body of the College.

MONDAY, MAY 14TH.

Vaccination in the Army

Mr. LUPTON asked the Secretary of State for War whether the average annual strength of the British armies in Egypt and *India during the 20 years* 1881 to 1900 was approximately 69,751, and the total number of cases of small pox amongst those men 1149, and the total number of deaths from small pox 113, and *whether* seeing that during the same period the town of Leicester had an average annual population of 165,415, and that the total number *of cases of small* pox in *Leicester* during that period was 447, and the total number of deaths from small pox was 31, that the soldiers were all vaccinated *and the* population of Leicester largely unvaccinated, and that the death rate from small pox in the army per 100 000 was eight times the death-rate in Leicester, he would consider the advisability of relaxing the regulation for compulsory vaccination in the army.—Mr HALDANE answered: It is not clear what value can be obtained *from* a comparison between the statistics of Leicester and those of the British army in India and Egypt, but if my honourable friend will consider the statistics for the years 1901 *to* 1904 he *will find* that while the troops in India and Egypt had 165 admissions to hospital for small pox and 21 deaths, Leicester had 740 admissions *to hospital* for small pox and 30 deaths. There would not appear to be any sound grounds for relaxing the regulations for vaccination in the army.

Sleeping Sickness

Mr REES asked the Under Secretary *of State for* the Colonies whether *he* was aware that the sleeping sickness was now reported to have reached Lake Mweru, in Northern Rhodesia, and whether, in view of this fact and of the facts that the mail carriers between Chiromo and *Blantyre had been held* up *by lions* and that the construction of the Government ox-cart road from Katungas to Chiromo was abandoned on account of the presence of the tsetse fly, he would consider the advisability of calling, by telegraph, upon the Commissioner to report regarding the effect of the game preserve alongside the last-named township and to consider whether it could not be removed to some more suitable location.—Mr. CHURCHILL replied: I have heard of some of the reports to which my hon. *friend* refers; but I cannot tell *from any information* in the Colonial Office whether they may not have been exaggerated. *That any connexion exists between* the appearances of lions, of the tsetse fly, and the sleeping sickness on the one hand and the maintenance of the game reserve on the other, is not at present established. But the Secretary of State is addressing *the Commissioner upon* the subject; and if it can be shown that the removal or contraction of the reserve *would increase* the health and security of Chiromo and its environs instructions will be given accordingly.

TUESDAY, MAY 15TH.

Royal Commission on Experiments on Animals.

Sir PHILIP MAGNUS asked the Secretary of State for the Home Department whether he was prepared *to make any statement as to* the appointment of a Royal Commission to consider the working of the Act under which experiments *on animals were permitted for the purposes* of medical research.—Mr. GLADSTONE answered: Yes, sir; in view of *the fact that no inquiry into* the subject has been held *for 30 years* it is the intention of the Government to recommend the appointment of a *Royal Commission* to examine the working of the Cruelty to Animals Act in the light of present scientific knowledge.

BOOKS, ETC., RECEIVED.

"AMERICA ABROAD," Offices of, 8 and 9, Essex-street, Strand, London, W.C.

America Abroad. The Annual Handbook for American Travellers. Edited by J. W. Cundall. 1906. Sixteenth Year of Publication. Price 6*d.*

AMERICAN MEDICAL ASSOCIATION PRESS, 103, Dearborn-avenue, *Chicago.*

Infection, Immunity, and Serum Therapy, in Relation to the *Infectious Diseases* which Attack Man; with *Considerations of* the Allied Subjects of Agglutination, *Precipitation, Hemolysis,* &c. *By* H. T. Ricketts, *M.D.*, Instructor in Pathology, University of Chicago. Price not stated.

BAILLIÈRE, J. B., ET FILS, 19, *Rue Hautefeuille, Paris.*

Traité d'Hygiène. *Publié en Fascicules* sous la Direction de MM. P. Brouardel et E. Mosny. X. Hygiène Navale. Par Dr. A. Duchateau, *Directeur du Service de Santé de la Marine à Lorient, Dr.* Jan, Médecin en chef de la Marine, et Dr. Planté, Médecin de la *Marine. Price Fr. 7.50.*

Nouveau Traité de Médecine et de Thérapeutique. Publié en Fascicules sous la *Direction* de MM. P. *Brouardel* et A. Gilbert. X. Streptococcie, *Staphylococcie, Pneumococcie,* Colibacillose. Par F. Widal, J. Courmont, L. *Landouzy,* et A. *Gilbert. Price* Fr. *3.50.*

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

The *Philosophy of Voice,* showing the Right and Wrong *Action of* Voice in Speech and Song. With Laws for Self-Culture. By Charles Lunn. Tenth (standard) edition. Price 6*s.* net.

Supplementary Essays on the Cause and Prevention of Dental Caries. By J. Sim Wallace, M.D., D.Sc., L.D.S., Hon. Dental Surgeon, West-End *Hospital for Nervous* Diseases. Price 2*s.* 6*d.* net.

Gastric Surgery. Being the Hunterian Lectures delivered before the Royal College of Surgeons of England on Feb. 19th, 21st, and 23rd, 1906. By Herbert J. Paterson, M.A., M.B., B.C. Cantab., *F.R.C.S. Eng. Price* 5*s.*

The Nature and Treatment of Cancer. (Some Methods of Hypodermic Medication in the Treatment of *Inoperable Cancer.*) *By* John A. Shaw-Mackenzie, M.D. Lond. Third edition, revised and enlarged. Price 2*s.* 6*d.* net.

A *Manual of Diseases* of the Eye. By Charles H. May, M.D. New York Chief of the Eye Clinic, Columbia University, New York, *1890–1903, Ophthalmic Surgeon to* the City Hospitals, the French Hospital, the Red Cross Hospital, and the Mount Sinai Hospital, *New York,* and *Claud Worth, F.R.C.S.* Eng., Ophthalmic Surgeon to the West Ham and East London Hospital, Assistant Surgeon to the *Royal London* Ophthalmic Hospital, Moorfields. Price 10*s.* 6*d.* net.

BERGMANN, J. F., Wiesbaden. (*F. BAUERMEISTER*, 49, Gordon-street, Glasgow.)

Immunität und Disposition und ihre experimentellen Grundlagen. Von Dr. Martin Jacoby, Privatdozent an der Universität Heidelberg. *Price M. 4.60, or* 4*s.* 8*d.*

Atmokausis und Zestokausis. Die Behandlung mit hochgespanntem Wasserdampf in der *Gynaekologie. Von* Dr. *Ludwig* Pincus, Frauenarzt in Danzig. Zweite verbesserte Auflage. Price M. 6, or 6*s.*

BRYCE, WILLIAM, 54 and 54A, Lothian-street, Edinburgh. (SIMPKIN, MARSHALL, AND CO., LIMITED, Edinburgh.)

Students' Manual of Medical Jurisprudence and Public Health. By G. Haxton Giffen, L.R.C.P. & S.E., F.R.C.S.I., D.P.H. Camb., Senior Demonstrator in Anatomy, Minto *House,* Bathgate Gold Medallist in Materia Medica, Royal College *of Surgeons,* Edinburgh. Second edition, revised and enlarged. Price 5*s.* net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

Uric Acid: an Epitome of the Subject. By Alexander Haig, M.A. M.D. Oxon., F.R.C.P., Physician to the Metropolitan *Hospital* and the *Royal* Hospital for Children and Women. Second edition. Price 2*s.* 6*d.* net.

CLARENDON PRESS, Oxford.

Lectures on the *Method of Science.* Edited by T. B. Strong, Dean of Christ Church. Price 7*s.* 6*d.* net.

COLUMBIA UNIVERSITY PRESS, *New York.* (*THE MACMILLAN COMPANY*, Agents. MACMILLAN AND CO., LIMITED, London).

Columbia University Biological Series. VIII. The Dynamics of Living Matter. By Jacques Loeb, *Professor of Physiology* in the University *of* California. Price 12*s.* 6*d.* net.

HOLT, HENRY, AND CO., New York. (GEORGE BELL AND SONS, Portugal-street, Lincoln's Inn, London.)

Nature and Health: a *Popular* Treatise on the Hygiene of the Person and the Home. By Edward Curtis, A.M., M.D., Emeritus *Professor of Materia Medica and Therapeutics, Columbia University,* New York. Price not stated.

J. B. LIPPINCOTT COMPANY, 5, Henrietta-street, Covent Garden, London, W.C.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A., with collaboration. Vol. I. Sixteenth series, 1906. (Sold in complete sets of four volumes, price £1 16*s.* net.)

JUTA, J. C., AND CO., Adderley-street, Cape Town.

From Farm to Forum, or Young Africa. By Arnold H. Watkins. Price 3*s.*

LEHMANN, J. F., München.

Lehmann's Medizinische Handatlanten. Band VIII. Atlas und *Grundriss der traumatischen Frakturen und Luxationen.* Von Prof. Dr. H. Helferich, in Kiel. Siebente verbesserte und vermehrte *Auflage. Price M.* 12.

Lehmann's Medizinische Handatlanten. Band XVIII. Atlas der äusserlich sichtbaren Erkrankungen des Auges nebst Grundriss ihrer Pathologie und *Therapie. Von Prof.* Dr. O. Haab in Zürich. Dritte stark vermehrte Auflage. Price M. 10.

Die Schmerzverhütung in der Chirurgie. Von O. *Witzel,* Professor in Bonn, F. Wenzel, Oberarzt in Bonn, und P. Hackenbruch, dirigierendem Arzt in Wiesbaden. Price M. 3.

Das Heufieber, sein Wesen und seine Behandlung. Von Dr. Alfred Wolff-Eisner. Price M. 3.60.

Fortschritte in der Anwendung der *Röntgenstrahlen. Von* Dipl.-Ing. Dr. phil. Josef Rosenthal, München. Price M. 1.20.

Die interne und chirurgische Behandlung der Gallensteinkrankheit. Vortrag auszugsweise gehalten zu Berlin am 20. April, 1906, im Kaiserin-Friedrich-Haus für das ärztliche Fortbildungswesen *in Preussen. Von Prof. Dr. Hans* Kehr, Geh. Sanitätsrat. Price M. 4.

LONGMANS, GREEN, AND CO., 39, Paternoster row, London, E.C.

The Diseases of the Nose and its Accessory Sinuses. By H. Lambert Lack, M.D. Lond., F.R.C.S., Surgeon to the Throat *Department* of the London Hospital and Lecturer on Diseases of the Throat to its Medical College (University of London), Surgeon to the Throat Hospital, Golden-square. Price 25*s.*

MACMILLAN AND CO., LIMITED, London.

Appendicitis, its Pathology and Surgery. By Charles Barrett Lockwood, F.R.C.S., Surgeon to St. Bartholomew's Hospital, &c. Second edition. *Price* 10*s.* net.

ROUTLEDGE, GEORGE, AND SONS, LIMITED, Broadway House, Ludgate-hill, London, E.C.

The Management of Children. A Book for Mothers and *Nurses.* By Howard Barrett, M.R.C.S. Eng., Fellow of the Royal *Medical* and Chirurgical Society, Fellow of the Medical Society of *London, late Surgeon to the Poplar* Hospital. Price 5*s* net.

W. B. *SAUNDERS COMPANY*, Philadelphia and *London.*

Saunders' Question-Compends. No. 13. Essentials of Genito-Urinary and Venereal *Diseases. Arranged in the Form of* Questions and Answers. Prepared especially for Students of Medicine. By Starling S. Wilcox, M.D., *Professor of* Genito-*Urinary Diseases* and Syphilology, Starling Medical College, Columbus, Ohio. Price 4*s.* net.

Nursing in the Acute Infectious Fevers. By George P. Paul, M.D., Assistant Visiting Physician and Adjunct *Radiographer* to the Samaritan *Hospital* at Troy, New York. *Price* 4*s.* net.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Lehrbuch der *Physiologischen Chemie. In Dreissig* Vorlesungen. Von Emil Abderhalden, Privatdozent für Physiologie an der *Universität* Berlin. *Price M.* 18.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLEN, R. W., M.B., B.S., has been appointed Pathologist to the Royal Eye Hospital, Southwark, S.E.

ARMOUR, *DONALD, M.B. Toronto,* M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the National Hospital for the Paralysed and Epileptic.

BARNARD, ANNIE T., M.B., B.S. Lond., has been appointed Refractionist to the *Royal* Eye Hospital, Southwark, S.E.

BLAKENEY, JOHN HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the No. 1 District by the Cheltenham Board of Guardians.

DONALD, DAVID, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Honorary Medical Officer *to* the Aldershot *Hospital.*

FENTON, W. J., M.B. Camb., M.R.C.P. Lond., has been appointed Assistant Physician to Charing Cross *Hospital.*

GILES, A. E., F.R.C.S. Edin., M.D. Vict., has been appointed Surgeon to In-patients at the Chelsea Hospital for Women.

HARRIS, JOHN HENRY, M.D. Durh., M.R.C.S., L.S.A., D.P.H. Camb., has been re-appointed Medical Officer of *Health to the* Dartmouth and Totnes Port Sanitary Authority.

MCHOUL, JAMES, M.B., Ch B. Glasg., has been appointed House Surgeon at the Royal Eye Hospital, Southwark, S.E.

[illegible], OWEN LLEWELLYN, M.B., Ch.B. Edin., has been appointed Clinical Assistant to the Electrical Department at Cardiff Infirmary.

[illegible], WILLIAM FRANCIS, L.R.C.P. & S. Irel., has been appointed Clinical Assistant to the Royal Hospital for Diseases of the Chest, City-road.

STEWART, PURVES, M.D., F.R.C.P. Lond., has been appointed Physician to the Italian Hospital, London, W.C.

TREVES, Sir FREDERICK, Bart., G.C.V.O., C.B., LL.D., has been appointed Honorary Consulting Surgeon to the Italian Hospital, London, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80, with fees.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence. Also Pathologist.

CHARING CROSS HOSPITAL.—Assistant Physician.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Surgeon.

CORNWALL COUNTY ASYLUM, Bodmin.—Third Assistant Medical Officer, unmarried. Salary £125, rising to £150 per annum, with board, apartments, washing, &c.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Dental Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician and House Surgeon. Salary £30 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £20, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Surgeon to the Throat and Ear Department.

HOSPITAL FOR WOMEN, Soho-square, W.—Surgeon Dentist.

HUDDERSFIELD INFIRMARY.—Senior House Surgeon. Salary £[illegible] per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board and apartments. Also Casualty House Surgeon. Salary £80 per annum, with board and lodging.

LIVERPOOL, WORKHOUSE AND HOSPITAL, Rice-lane, Walton.—Assistant Resident Medical Officer, unmarried. Salary £125 per annum, with board.

LONDON COUNTY ASYLUM, Horton, Epsom, Surrey.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, residence, and washing.

PARISH OF PADDINGTON.—District Medical Officer. Salary £100 per annum.

PERTH DISTRICT ASYLUM, Murthly.—Assistant Physician. Salary £120, with board and residence.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Hunterian Professors, Erasmus Wilson Lecturer, and Arris and Gale Lecturers.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, West Strand, W.C.—Clinical Assistants. Also House Surgeon for six months. Honorarium £25.

ST. GILES, CAMBERWELL, WORKHOUSE, East Dulwich.—Locum Tenens for [illegible] weeks. Remuneration at rate of 4 guineas per week, with board, lodging, and washing.

SHEFFIELD CHILDREN'S HOSPITAL (EAST END BRANCH).—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board and lodging.

UNIVERSITY COLLEGE, London.—Assistant Dental Surgeon.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BENNETT.—On May 9th, at [illegible], Vancouver-road, Forest Hill, S.E., the wife of Colin E. Bennett, M.R.C.S., L.R.C.P. Lond., of a son.

McNEILL.—On May 15th, at Montague House, Bridlington, the wife of Duncan McNeill, M.B., of a daughter.

STACEY.—On April 23rd, at Sutton Bonington, Loughborough, the wife of Bernard Stacey, M.B., of a daughter.

DEATHS.

APPLETON.—On May 11th, at The Lizard, Cornwall, George Appleton, M.R.C.S.

GOULDER.—On May 9th, at Unthank-road, Norwich, Frank Samuel Goulder, M.R.C.S., L.R.C.P. Lond., aged 53 years.

PEARSE.—On May 14th, Robert Edmund Pearse, I.M.S. (retired), aged [illegible] years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

QUACKS AND ABORTION.

THE articles upon Quacks and Abortion which have appeared from time to time in our columns have had the effect of bringing about the disappearance of advertisements dealing with abortifacients from the pages of the better known and widely read newspapers. But in not a few journals we still find advertisements of a bad character. Some of these now lie before us in the advertisement columns of a paper called *English and Home Society* of March 24th. For instance—

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For Ailments Peculiar to Women.
A SAFE, CERTAIN AND SPEEDY REMEDY
FOR ALL OBSTRUCTIONS AND IRREGULARITIES
Price 2/9 and 4/6. Extra strong, [illegible] and [illegible] per Box.

And another—

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STEEL, PENNYROYAL, and BITTER APPLE PILLS.
A Medicinal Compound expressly adapted for Females.
Price 1/1½, 2/9 and 4/6 per Box.

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2/6, 4/6, 10/- and 21/- per Box. Post free.

17, MARCHMONT ST., LONDON, W.C.
MENTION THIS PAPER.

We have already mentioned *English and Home Society* and we would point out to the editor and to the proprietor that Mr. Justice Darling not so very long ago expressed a forcible opinion as to the liability of those publishing such advertisements in newspapers.

Besides Boutall's advertisements we note those of Dr. Davis's Pills and Towle's Pennyroyal and Steel Pills. Although quinine cones are not used as abortifacients they are not preparations which any society, even *English and Home Society*, should use, and we may say the same of Damiana and Coca Rejuvenators which Boutall also supplies. As to the abortion preparations, it is obvious that the editor and the proprietor of the journal in question must either believe the advertisements concerning them to be true or not true. If the former, they are aiding and abetting a crime; if the latter, they are helping to obtain money under false pretences, which is also a crime. Now that this fact has been pointed out to them we have no doubt that they will see that such advertisements do not occur in their journal again.

MEDICAL CERTIFICATES FOR SCHOOL ATTENDANCE.

To the Editor of THE LANCET.

SIR,—Is a medical man entitled to charge a fee for giving a medical certificate for non-attendance at school: (1) when professional services are being given as Poor-law medical officer; (2) when as medical officer to a children's club; (3) when as paid medical officer to a dispensary? In the case of private patients there is no doubt the medical man is entitled to a fee. What should the fee be?

I am, Sir, yours faithfully,
J. P., M.D.

*** We do not think that questions such as the above have ever been legally decided, and the answer may in individual cases be expressed or implied in the contract under which the medical man attends the case. Subject to this we should say, however, that the answer to questions 1 and 2 is in the negative. As regards question 3, we think that a medical man in such a position would have no right to charge a fee unless there was some definite clause in the rules of the dispensary. In the matter of private patients again no definite rule can be given. We think that a fair fee to charge would be that of half the fee for an ordinary visit or consultation. For example, supposing that the ordinary fee is 5s., on being summoned to the child the medical man, if he gave a certificate as the result of his examination of the child would charge a fee of 7s. 6d., the additional 2s. 6d. representing the fee for the certificate.—ED. L.

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MR. MORGAN, the British Consul, in his report for the year 1905, just received at the Foreign Office, observes that people who return to Rome after an absence of a decade or so can scarcely recognise the old city under its modern garb which, however adversely it may affect its archæological interest, cannot but impress the visitor. Its population in the comparatively brief period of 20 years has risen from 345,036 to over 500,000; the extensive lands around Rome have given way to suburban quarters which, although unsightly, give shelter to thousands of newcomers from all parts of Italy, who contribute their share of individual labour towards the economic development of the city.

view of this fact and of the facts that the *mail carriers* between Chiromo and Blantyre had been held up by lions and that the construction of the Government ox-cart road from Katungas to Chiromo was *abandoned on account of the* presence *of* the tsetse fly, he would consider the advisability of calling, by telegraph, upon the Commissioner to report regarding the effect of the game preserve alongside the last-named township and to consider whether it could not be removed to some more suitable location.—Mr. Churchill *replied: I* have heard of some of the *reports* to which my hon. friend *refers; but* I cannot tell from any information in the Colonial Office whether they *may not* have been exaggerated. That any connexion exists between the appearances of lions, of the tsetse *fly*, and the *sleeping* sickness on the one hand and the *maintenance of the* game reserve on the other, is not at present established. But the Secretary of State is addressing the Commissioner upon the subject; and if it can be shown that the removal or contraction of the reserve would increase the health *and security of* Chiromo and its environs *instructions* will be *given accordingly*.

Tuesday, May 15th.

Royal Commission on Experiments on Animals.

Sir Philip Magnus asked the Secretary of State for the Home Department whether he was prepared to make any statement as to the appointment of a Royal Commission to consider the working of the Act under which experiments on animals were permitted for the purposes *of* medical research.—Mr. Gladstone answered: Yes, sir; in view of the fact that no inquiry into the subject has been held for 30 years it is the intention of the Government to recommend the appointment of *a Royal* Commission to examine the working of the Cruelty to Animals Act in the light of present scientific knowledge.

BOOKS, ETC., RECEIVED.

"America Abroad," Offices of, 8 and 9, Essex-street, Strand, London, W.C.

America Abroad. The Annual Handbook for American Travellers. Edited by J. W. Cundall. 1906. *Sixteenth Year of Publication.* Price *6d.*

American Medical Association Press, 103, Dearborn-avenue, Chicago.

Infection, Immunity, and Serum Therapy, in Relation to the Infectious Diseases which Attack Man; with Considerations of the Allied Subjects of Agglutination, Precipitation, Hemolysis, &c. By H. T. Ricketts, M.D., Instructor in Pathology, University *of* Chicago. Price not stated.

Baillière, J. B., et Fils, 19, Rue Hautefeuille, Paris.

Traité d'Hygiène. Publié en Fascicules sous la Direction de MM. P. Brouardel et E. Mosny. X. Hygiène Navale. Par Dr. A. Duchateau, Directeur du Service de Santé de la Marine à Lorient, Dr. Jan, Médecin en chef de la Marine, et Dr. Planté, Médecin de la Marine. *Price Fr. 7 50.*

Nouveau Traité de Médecine et de Thérapeutique. Publié en Fascicules sous la Direction de MM. P. Brouardel et A. Gilbert. X. Streptococcie, Staphylococcie, Pneumococcie, Colibacillose. Par F. Widal, J. Courmont, L. Landouzy, et A. Gilbert. Price Fr. 3.50.

Baillière, Tindall, and Cox, 8, *Henrietta-street,* Covent Garden, London, W.C.

The Philosophy of Voice, showing the Right and Wrong Action of Voice in Speech and Song. With Laws for Self-Culture. By Charles Lunn. Tenth (standard) edition. *Price 6s.* net.

Supplementary Essays on the Cause and Prevention of Dental Caries. By J. Sim Wallace, M.D., D.Sc., L.D.S., Hon. Dental Surgeon, *West-End Hospital for Nervous Diseases. Price* 2s. *6d.* net.

Gastric Surgery. Being the Hunterian *Lectures delivered before* the Royal College of Surgeons of England on Feb. 19th, 21st, and 23rd, 1906. By Herbert J. Paterson, M.A., M.B., B.C. Cantab., F.R.C.S. Eng. Price 6s.

The Nature and Treatment of Cancer. (Some Methods of Hypo*dermic Medication* in the Treatment of Inoperable Cancer.) By John A. Shaw-Mackenzie, M.D. Lond. Third edition, revised and enlarged. *Price 2s. 6d.* net.

A Manual of Diseases of the Eye. By Charles H. May, M.D. New York Chief of the Eye Clinic, Columbia University, *New York*, 1890–1903, Ophthalmic Surgeon to the City Hospitals, the French Hospital, the Red Cross Hospital, and the Mount Sinai Hospital, *New York*, and Claud Worth, F.R.C.S. Eng., Ophthalmic Surgeon to the West Ham and East London Hospital, Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields. *Price* 10s. 6d. net.

Bergmann, J. F., Wiesbaden. (F. Bauermeister, 49, Gordon-street, Glasgow.)

Immunität und Disposition und ihre experimentellen Grundlagen. *Von Dr. Martin* Jacoby, Privatdozent an der Universität Heidelberg. Price M. 4.60, or 4s. *8d.*

Atmokausis und *Zestokausis. Die* Behandlung mit hochgespanntem Wasserdampf in der Gynaekologie. Von Dr. *Ludwig* Pincus, Frauenarzt in Danzig. Zweite verbesserte Auflage. Price M. 6, or 6s.

Bryce, William, 54 and 54a, Lothian-street, Edinburgh. (Simpkin, Marshall, and Co., Limited, Edinburgh.)

Students' Manual of *Medical Jurisprudence* and Public Health. By G. Haxton Giffen, L.R.C.P. & S.E., F.R.C.S.I., D.P.H. Camb., Senior Demonstrator in Anatomy, Minto House, Bathgate Gold Medallist in Materia Medica, Royal College of Surgeons, Edinburgh. Second edition, revised and enlarged. *Price 6s.* net.

Churchill, J. and A., 7, Great *Marlborough*-street, London, W.

Uric Acid: an Epitome of the Subject. By Alexander Haig, M.A. M.D. Oxon., F.R.C.P., Physician to the *Metropolitan* Hospital and the *Royal* Hospital for Children and Women. Second edition. Price 2s. 6d. net.

Clarendon Press, Oxford.

Lectures on the *Method of* Science. *Edited* by T. B. Strong, Dean of Christ Church. Price *7s. 6d.* net.

Columbia University Press, New York. (The Macmillan Company, Agents. Macmillan and Co., Limited, London).

Columbia University Biological Series. VIII. The Dynamics of Living Matter. By Jacques Loeb, Professor of Physiology in the University of California. Price *12s. 6d.* net.

Holt, Henry, and Co., New York. (George Bell and Sons, Portugal street, Lincoln's Inn, London.)

Nature and Health: a Popular Treatise on the Hygiene of the *Person* and the Home. By Edward Curtis, A.M., M.D., Emeritus Professor of Materia Medica and Therapeutics, Columbia University, New York. *Price* not stated.

J. B. Lippincott Company, 5, Henrietta-street, Covent Garden, London, W.C.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D., Phila*delphia, U.S.A., with collaboration.* Vol. I. Sixteenth series, 1906. (Sold in complete sets *of four volumes*, price £1 15s. net.)

Juta, J. C., and Co., Adderley-street, Cape Town.

From Farm to Forum, or Young Africa. By Arnold H. Watkins. Price 5s.

Lehmann, J. F., München.

Lehmann's Medizinische Handatlanten. Band VIII. Atlas und *Grundriss der traumatischen Frakturen und Luxationen.* Von Prof. Dr H. Helferich, in Kiel. Siebente verbesserte und vermehrte Auflage. Price M. 12.

Lehmann's Medizinische Handatlanten. Band XVIII. Atlas der äusserlich sichtbaren Erkrankungen des Auges nebst Grundriss *ihrer Pathologie und Therapie. Von Prof. Dr.* O. Haab in Zürich. Dritte stark vermehrte Auflage. Price M. 10.

Die Schmerzverhütung in der Chirurgie. Von O. Witzel, Professor in Bonn, F. Wenzel, Oberarzt in Bonn, und P. Hackenbruch, dirigierendem Arzt in Wiesbaden. Price M. 3.

Das Heufieber, sein Wesen und seine Behandlung. Von Dr. Alfred Wolff-Eisner. Price M. 3.60.

Fortschritte in der Anwendung der Röntgenstrahlen. Von Dipl.-Ing. Dr. phil. Josef Rosenthal, München. Price M. 1.20.

Die interne und chirurgische Behandlung der Gallensteinkrankheit. Vortrag auszugsweise gehalten zu Berlin am 20. April, 1906, im Kaiserin-Friedrich-Haus für das ärztliche Fortbildungswesen in Preussen. Von Prof. Dr. Hans Kehr, Geh. Sanitätsrat. Price M. 4.

Longmans, Green, and Co., 39, Paternoster row, London, E.C.

The Diseases of the Nose and its Accessory Sinuses. By H. Lambert Lack, M.D. Lond., F.R.C.S., Surgeon to the Throat *Department* of the London Hospital and Lecturer on Diseases *of the* Throat to its Medical College (University of London), Surgeon to the Throat Hospital, Golden-square. Price 25s.

Macmillan and Co., Limited, London.

Appendicitis, its Pathology and Surgery. By Charles Barrett Lockwood, F.R.C.S., Surgeon to St. Bartholomew's Hospital, &c. Second edition. Price 10s. net.

Routledge, George, and Sons, Limited, Broadway House, *Ludgate-hill, London, E.C.*

The Management of Children. A Book for Mothers and Nurses. By Howard Barrett, M.R.C.S. *Eng., Fellow of* the Royal Medical and Chirurgical Society, Fellow of the Medical Society of London, late Surgeon to the Poplar Hospital. *Price* 5s net.

W. B. Saunders Company, Philadelphia and London.

Saunders' Question-Compends. No. 13. Essentials of Genito-*Urinary and Venereal Diseases.* Arranged in the Form of Questions and Answers. Prepared especially for Students of Medicine. By Starling S. Wilcox, M.D., *Professor of Genito-Urinary* Diseases *and* Syphilology, Starling Medical College, Columbus, Ohio. Price 4s. net.

Nursing in the Acute Infectious Fevers. By George P. Paul, M.D., Assistant Visiting Physician and Adjunct Radiographer to the Samaritan *Hospital* at Troy, New York. *Price* 4s. net.

Urban und Schwarzenberg, Berlin und Wien.

Lehrbuch der Physiologischen Chemie. In Dreissig Vorlesungen. Von Emil Abderhalden, *Privatdozent für Physiologie* an der Universität Berlin. Price M. 18.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Allen, R. W., M.B., B.S., has been appointed Pathologist *to the* Royal Eye Hospital, Southwark, S.E.

Armour, Donald, M.B. Toronto, M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the National Hospital for the Paralysed and Epileptic.

Barnard, Annie T., M.B., B.S. Lond., has been appointed Refractionist to the *Royal Eye* Hospital, Southwark, S.E.

Blakeney, John Henry, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the No. 1 *District* by the Cheltenham Board of *Guardians*.

Donald, David, L.R.C.P. & S. Edin., L.F.P.S. *Glasg.*, has been appointed *Honorary Medical Officer* to the Aldershot Hospital.

Fenton, W. J., M.B. Camb., M.R.C.P. Lond., *has been appointed* Assistant Physician to Charing Cross Hospital.

Giles, A. E., F.R.C.S. Edin., M.D. Vict., has been appointed *Surgeon* to In-patients at the Chelsea *Hospital for Women.*

Harris, John Henry, M.D. Durh., M.R.C.S., L.S.A., D.P.H. *Camb.*, has been re-appointed *Medical Officer* of Health to the Dartmouth and Totnes Port Sanitary Authority.

McHoul, James, M.B., *Ch B. Glasg.*, has been appointed House *Surgeon* at the Royal Eye Hospital, Southwark, S.E.

RHYS, OWEN LEWELLIN, M.B., Ch.B. Edin., has been appointed Clinical Assistant to the Electrical Department at Cardiff Infirmary.

ROE, WILLIAM FRANCIS, L.R.C.P. & S. Irel., has been appointed Clinical Assistant to the Royal Hospital for Diseases of the Chest, City-road.

STEWART, PURVES, M.D., F.R.C.P. Lond., has been appointed Physician to the Italian Hospital, London, W.C.

TREVES, Sir FREDERICK, Bart., G.C.V.O., C.B., LL.D., has been appointed Honorary Consulting Surgeon to the Italian Hospital, London, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80, with fees.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence. Also Pathologist.

CHARING CROSS HOSPITAL.—Assistant Physician.

CHELSEA HOSPITAL FOR WOMEN, Fulham road, London, S.W.—Surgeon.

CORNWALL COUNTY ASYLUM, Bodmin.—Third Assistant Medical Officer, unmarried. Salary £135, rising to £155 per annum, with board, apartments, washing, &c.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Dental Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Surgeon to the Throat and Ear Department.

HOSPITAL FOR WOMEN, Soho square, W.—Surgeon Dentist.

HUDDERSFIELD INFIRMARY.—Senior House Surgeon. Salary £80 per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board and apartments. Also Casualty House Surgeon. Salary £50 per annum, with board and lodging.

LIVERPOOL, WORKHOUSE AND HOSPITAL, Rice-lane, Walton.—Assistant Resident Medical Officer, unmarried. Salary £125 per annum, with board.

LONDON COUNTY ASYLUM, Horton, Epsom, Surrey.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, residence, and washing.

PARISH OF PADDINGTON.—District Medical Officer. Salary £100 per annum.

PERTH DISTRICT ASYLUM, Murthly.—Assistant Physician. Salary £120, with board and residence.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Hunterian Professors, Erasmus Wilson Lecturer, and Arris and Gale Lecturer.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, West Strand, W.C.—Clinical Assistants. Also House Surgeon for six months. Honorarium £25.

ST. GILES, CAMBERWELL, WORKHOUSE, East Dulwich.—Locum Tenens for four weeks. Remuneration at rate of 4 guineas per week, with board, lodging, and washing.

SHEFFIELD CHILDREN'S HOSPITAL (EAST-END BRANCH).—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board and lodging.

UNIVERSITY COLLEGE, London.—Assistant Dental Surgeon.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BENNETT.—On May 9th, at Staverton, Vancouver road, Forest Hill, S.E., the wife of Colin E. Bennett, M.R.C.S., L.R.C.P. Lond., of a son.

MCNEILL.—On May 13th, at Montague House, Bridlington, the wife of Duncan McNeill, M.B., of a daughter.

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A British company is now going to give effect to a plan whereby the inhabitants of Rome will be provided with a summer resort placed in the immediate neighbourhood of the capital. The site chosen for the new summer town is called "Pratone," a small plain or table land, surrounded by shady woods of chestnuts, acacias, and oaks. The "Pratone" is 3210 feet above the sea level, and general local conditions are reported as being favourable for the carrying out of the object in view—short distance from Rome (21 miles as the crow flies), clear, bracing mountain air, the temperature in summer rarely exceeding 70° F., and cool, pure water. The company intends to run electric carriages between Rome and the "Pratone," which distance it estimates will be covered in an hour. The ascent to the "Pratone" will be effected by means of a series of steep inclines. The electric energy will be derived from the river Aniene at Tivoli. A large area on the top of the "Pratone" has been secured for the erection of a hotel and restaurant, as well as for a clubhouse, theatre, &c. The remaining land will be sold to private individuals who may wish to build summer residences thereon. In the neighbourhood of the "Pratone" there exists a spring of mineral water, most beneficial in cases of renal disorders. An electric tramway line connecting Rome with the surrounding villages has been opened to traffic. The advantages accruing to the population of the capital will be considerable, inasmuch as it is proposed to build houses for the less-favoured classes in the districts near Rome served by the projected line and thus to enable them to live out of the city where house rents have of late years increased very much owing to the dearth of apartments consequent upon the demolition ordered by the municipal authorities and the increase of population. The strenuous efforts during late years on the part of the Italian Red Cross Society to stamp out malaria in the Roman Campagna have proved most successful. The first attempt was made in 1900 when the returns showed that not less than 31 per cent. of the inhabitants of the "Agro Romano" had been fever-stricken. In 1901 the figure was returned at 26, 20 in 1902, 11 in 1903, 10 in 1904, and 5·1 during last year. Consequently there has been in five years a decrease of about five-sixths. These results were obtained by strict sanitary measures—use of wire nets so as to prevent the access of mosquitoes to cottages and free distribution of quinine among the peasantry. During the summer months a number of medical men belonging to the Red Cross Society take up their posts in the malarial districts in order to administer the necessary antidote as well as to show the people how to protect themselves from infection. The expenditure required for the effective operation of the organisation is partly paid out of the King's privy purse and partly by the provincial and municipal authorities.

THE MEDICAL TERMS OF THE EPISTLE TO THE HEBREWS.

To the Editors of THE LANCET.

SIRS,—The following quotation from Professor Schmiedel may be of use to your correspondent "M.D.," who writes in THE LANCET of May 5th, p. 1292: "'A medical language' was discovered in the Third Gospel and in Acts (so Hobart, 1882) and also in Hebrews (so Franz Delitzsch in his Commentary, 1857 (ET, 1868–70), condensed in the introduction to the second edition of Meyer-Lünemann)." With regard to what you say about the tradition coming from Clement of Alexandria I do not think that modern critics lay much stress upon its value. I believe it is more commonly held that the Third Gospel and Acts are from one pen (unknown), Hebrews from another (also unknown). That the writer of the former was the physician of Colossians, iv. 14, is unlikely (see Jülicher's "Introduction," Section 32), while for the latter a great number of names have been conjectured, two recent surmises being Apollos and Aquila and Priscilla.

I am, Sirs, yours faithfully,
M.B.

MOTOR CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—In answer to $Fe_2O_3(H_2O)_2$ I have driven a 4 cy. "Sunbeam," 1905 pattern, for the last 17 months. My expenses for upkeep without servant's wages or stable rent for the 12 months ending Dec. 31st, 1905, came to £155 12*s.* 8*d.* Incidentally I should advise $Fe_2O_3(H_2O)_2$ to think twice before fitting 810 × 90 tyres on a car such as he describes as he would find 815 × 105 tyres a big save in the end.

I am, Sirs, yours faithfully,
"234."

May 11th, 1906.

⁂ We may add that our correspondent writes from a very hilly part of the country.—ED. L.

◆

Justitia.—Bonds with assistants are not now so usual. A signed agreement setting forth the terms of engagement is all that is necessary, and a clause in this agreement might stipulate that the assistant should not, within ten years of termination of his agreement, practise within a limit of ten miles in the country, or one to three miles in a large town. Such a covenant has been upheld as reasonable in the courts of law.

Mr. John Hutton.—The triple wick candle ophthalmic lamp which was described in THE LANCET of Feb. 27th, 1904, p. 586, is made by Mr. Hawksley, 357, Oxford-street, London, W.

R. E. A. is referred to his medical adviser for the treatment of a trivial and common complaint.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (21st).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Annual Conversazione. Reception by the President. 9 P.M. Oration:—Prof. Kocher (Berne): Some Contributions to the Pathology of the Thyroid Gland.

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Mr. B. G. A. Moynihan: Report upon 232 Operations for Non-malignant Diseases of the Stomach.—Dr. H. French and Dr. H. T. Hicks: Mitral Stenosis and Pregnancy. (Epidiascope demonstration.)

FRIDAY (25th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. F. Hawkins: Case of Thrombosis of the Abdominal Aorta.—Dr. C. R. Box: A Series of Cases in which Pulmonary Embolism was Due to Displacement of Pulmonary Thrombosis.—Dr. F. P. Weber: Acute Dilatation (Atony) of the Stomach and Intestines connected with Pneumonia and Pericarditis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin). 5.15 P.M. Lecture:—Dr. R. Saundby (Birmingham): The Dietetic Treatment of Dyspepsia.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. Low: Tropical Medicine. Medical and Surgical Wards. 11 A.M. Operations in Out-patient Department. 12 noon. Dr. Low: Pathological Demonstration. Mr. Baldwin: Practical Surgery. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 3 P.M. Mr. Paget: Demonstration in Surgical Wards. 5 P.M. Dr. Saunders: The Examination and Treatment of Severe Cases of Gastric Ulcer.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Waggett: Demonstration (Aural). (Post-Graduate Course.)

TUESDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Harris: Clinique. (Medical.) 5.15 P.M. Lecture:—Dr. T. G. Stevens: The Necessity for, and Nature of, the Treatment of Backward Displacement of the Uterus.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—10 A.M. Medical and Surgical Wards. 11 A.M. Operations in Out-patient Department. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Dr. Abraham: Skin Diseases. Dr. Ball: Throat, Nose, and Ear Department. 5 P.M. Dr. Low: Tropical Medicine.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. J. Taylor: Paraplegia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.)—4.30 P.M. Lecture:—Dr. D. Forsyth: Diagnosis of Abdominal Tumours.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.)—5 P.M. Mr. W. R. Smith: The Law of Public Health. (Lecture V.)

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.)—5 P.M. Prof. W. Stirling: Glands and their Products. (Lecture III.)

WEDNESDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. J. Berry: Clinique (Surgical). 5.15 P.M. Lecture:—Dr. H. Mackenzie: The Treatment of Acute Pneumonia.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—10 A.M. Medical and Surgical Wards. Dr. Ball: Throat, Nose, and Ear Operations. 11 A.M. Operations in Out-patient Department. 12 noon: Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics. Dr. Beddard: Demonstration in Medical Wards. 2.30 P.M. Operations. 5 P.M. Dr. R. H. Cole: Puerperal Insanity.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. Abercrombie: Nose.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.)—5 P.M. Dr. C. Prausnitz (Breslau): The Bacteriology of Water, Milk, and Tuberculosis. (Lecture III.)

THURSDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. Hutchinson: Clinique (Surgical). 5.15 P.M. Lecture:—Dr. P. Stewart: Trophic Nervous Diseases.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Dr. Low: Tropical Medicine. 11 A.M. Operations in Out-patient Department. 12 noon. Mr. Baldwin: Practical Surgery. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Mr. Dunn: Ophthalmology. 3 P.M. Dr. Hood: Demonstration in Medical Wards. 5 P.M. Mr. Keetley: Unreduced Dislocation of Shoulder and Elbow.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.)—4.30 P.M. Lecture:—Dr. A. E. Giles: Obstructed Labour.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration (Surgical). (Post Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.)—4 P.M. Lecture:—Mr. Parsons: Phlyctenular Conjunctivitis and its Complications.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.)—5 P.M. Prof. W. J. Sollas: Man and the Glacial Period. (Lecture I.)

FRIDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thompson: Clinique (Throat).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—10 A.M. Medical and Surgical Wards. 11 A.M. Operations in Out-patient Department. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 5 P.M. Dr. Abrahams: Cases of Skin Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.)—3.30 P.M. Clinical Lecture:—Dr. J. Taylor: Paraplegia.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.)—9 P.M. Mr. L. Hill: Compressed Air and its Physiological Effects.

SATURDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—10 A.M. Medical and Surgical Wards. Dr. Ball: Throat, Nose, and Ear Operations. 11 A.M. Operations in Out-patient Department. 12 noon. Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.)—3 P.M. Prof. Sir James Dewar: The Old and the New Chemistry. (Lecture II.)

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 17th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks
May 11	29·74	S.W.	...	83	58	47	48	51	Cloudy
" 12	29·79	S.	...	112	71	50	55	59	Fine
" 13	30·04	S.E.	...	116	74	52	54	60	Fine
" 14	29·92	N.E.	...	116	63	49	52	58	Fine
" 15	29·82	N.E.	...	106	61	45	44	48	Cloudy
" 16	29·80	W.	...	107	56	46	46	51	Cloudy
" 17	29·49	N.E.	0·13	66	47	43	41	45	Cloudy

During the week marked copies of the following newspapers have been received:—*Liverpool Daily Post, Lancashire Post, Leicester Mercury, Reynolds' Newspaper, Yorkshire Observer, Leicester Advertiser, Portsmouth Independent, Newcastle Chronicle, Cork Constitution, Cardiff Mail, Bury Times, Dublin Mail, Manchester Guardian, Glasgow Herald, Leeds and Yorkshire Post, City Press, Surrey Advertiser, Manchester Chronicle, Birkenhead News,* &c.

Communications, Letters, &c., have been received from—

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Letters, each with enclosure, are also acknowledged from—

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The Wightman Lecture

ON

CHRONIC APPENDICITIS AND THE EARLY DIAGNOSIS AND TREATMENT OF ACUTE APPENDICITIS IN CHILDREN.

Delivered before the Society for the Study of Disease in Children on May 18th, 1906,

BY AUGUSTE BROCA, M.D.,
PROFESSEUR AGRÉGÉ AT THE UNIVERSITY OF PARIS AND SURGEON TO THE HÔPITAL DES ENFANTS MALADES.

GENTLEMEN,—I could scarcely resist feeling a certain pride in speaking before you at this important meeting were I not called back to modesty by a more exact appreciation of the reality. For when you invited me to deliver this lecture, by which Mr. Wightman desires to perpetuate the memory of a son who too soon departed this life, I felt that I was indebted for this testimony of esteem to the circumstance that my Parisian colleagues had last year done me the honour of appointing me president of our Pediatric Society in Paris. As president of that society I had the pleasure to receive some of you (not numerous enough—allow me this reproach) when you came to Paris and visited our hospitals and great medical establishments. It is therefore to my French colleagues, through me, that your courteous invitation and appreciation are addressed. "Vous aviez d'ailleurs été les premiers, Messieurs les Anglais," by prompting us a few months before to proclaim medically our recent *entente cordiale*. With a great feeling of pleasure I personally saw the end of our secular rancours, which ought by mutual consent and a long time ago to have been immolated upon the altar of our common deity, Freedom. I am glad to have the opportunity of declaring here my opinion, for at that moment I was prevented from going to London, and I can assure you that it was not from any lack of sympathy with the movement.

Now that I have apologised for my unworthiness I must confess that I accepted your invitation with very great pleasure, but I should hardly venture to speak before you on such a common topic had not the first idea of lecturing on this subject come from your President, Mr. R. Clement Lucas, who had been struck when he visited my hospital wards by the great number of children operated on by me for appendicitis. He thought that it would be of interest to you if I related some of the observations which I had made during the past 15 years in children at an age when his own experience seems to suggest that this lesion is more frequent in Paris than in London. Some authors think that this frequency in childhood does not depend upon a true predisposition, the youngest being the most numerous amongst the population; the same proportion for a disease, whose real frequency is not modified by age, must give a larger number in the young. But that alone is not sufficient to explain the predominance found in Paris, where, so soon as appendicitis began to be carefully studied, important statistics were published founded on the experience obtained in our two children's hospitals, the cases being observed by the late Dr. Brun, by Jalaguier, and by myself. I will recall that in 1898 one of my pupils, Miss Gordon, took for the subject of her inaugural dissertation my first 78 cases of appendicitis in children, and since then I have operated more and more on patients under 15 years of age suffering from appendicitis, partly because we have learned to discover some cases formerly unrecognised, and partly also, it seems to me, because we have periods of increase due to the frequent returns of influenza to which we have unfortunately been liable since 1890. But if, as I understand from what Mr. Clement Lucas has written to me, the frequency of appendicitis in childhood is greater in Paris than in London, I do not think that influenza is the true cause of that difference, for influenza has now invaded all countries. If there is a particular cause my opinion is that it must be somehow connected with food.

In spite of some opponents, every day lessening, most medical men now consider that appendicitis is but the consequence, the localisation, of an entero-colitis formerly more extended. This localisation derives its surgical importance from the special anatomical connexion between the peritoneum and an intestinal appendix predisposed by its *structure to lymphangitic inflammation and even to perforation*. But it also seems that all forms of enteritis have not the same tendency to create appendicitis. Everyone knows how frequent gastro-enteritis is among babies not suckled and who, suffering from diarrhœa or constipation, insufficiently fed or overfed, end, according to the cases, in athrepsia, summer diarrhœa, or rickets. Appendicitis is, however, almost never seen in newly-born infants. The youngest on whom I have operated was 20 months old and *such an age is very exceptional. One of the causes of this* apparent rarity in infancy is, no doubt, the serious clinical difficulties we have to deal with; we are limited with very young children to an examination almost such as a veterinary surgeon might make on patients unable to give us any information unless by screams when our palpation gives pain. In this way the chronic forms, of which I shall speak to you by-and-by, escape us, and with them, no doubt, a great number of acute ones. But the fact is that our medical colleagues in their *post-mortem* examinations of nurslings who have died from gastro-enteritis never mention peritonitis of appendicular origin; they do not even describe the appendicular and peri-appendicular alterations whose importance we know well in older patients. This is partly owing to the fact that appendicitis takes a certain time for its development and for its surgical individualisation after the beginning of the causal enteritis; and I think that a few children who are attacked at the outset of childhood suffer from food badly digested. However, I do not believe this to be a rule and from the observations made at every age and in every country it appears that the general opinion of medical men is to the effect that an excess of flesh diet may be the origin of enteritis predisposing to appendicitis. But if English people eat a great quantity of meat when grown up, they are in the habit of giving little of it to their children during the first years of life—sometimes, perhaps, not even enough, if I may judge by what our French mothers call bringing up children *à l'anglaise*.

Among the predisposing varieties of enteritis there is one whose frequency has steadily increased of late years both in children and in adults. I mean muco-membranous enteritis and I invite particular attention to it, for some persons have supposed that there is a certain antagonism between that illness and appendicitis, but in my opinion this hypothesis is diametrically opposed to the actual facts. This point presents a double interest: firstly, for the diagnosis; and secondly, for the treatment. It is important as a matter of diagnosis, for I have seen some children die and others who almost died from repeated and unrecognised attacks of appendicitis because appendicitis in their cases was associated with evident attacks of muco-membranous enteritis; and those children's medical attendants, although of high professional standing, have sorrowfully learnt how wrong was the mischievous doctrine of antagonism. It is quite as important for treatment, for we are often obliged to subject our patients to medical and dietetic treatment for enteritis after their appendices have been removed. I am convinced that in every muco-membranous entero-colitis there exists an important nervous element. Some of them are purely reflex and disappear with surprising rapidity after the successful surgical treatment of disease of the abdominal organs, such as the kidneys, the uterus, the ovaries, &c. This may happen after the excision of a chronically irritated appendix; but the principal and most usual effect of such removal is the disappearance of long-standing and intense constipation due to intestinal atony from which many patients suffer before the operation. We do not obtain the same results in muco-membranous diarrhœa, and I am compelled to note the cases of patients who suffered from more or less serious relapses after the operation for appendicitis.

Clinical observation is not always able to determine with what certainty an operation would give relief in intestinal disorders; but if many times before the operation the symptoms were intense and prolonged it will be prudent after the surgical procedure to recommend that careful medical treatment should be continued for some months. I said that when enteritis exists appendicitis takes some time *to develop*, and I will now add that this process is very often a chronic one. Formerly we did not think so, for, struck by the acuteness of threatening accidents, we have not always looked into the antecedents of our patients for the indication of former chronic lesions, but we were not long before asserting that those symptoms existed and almost all of us now regard appendicitis as a chronic alteration aggravated by acute episodes. This notion has become common nowadays, but it was less common seven years ago, when I drew attention to it in a monograph on appendicitis. The distinction is important and if one is to study successfully all that concerns the diagnosis and the treatment one must separate carefully the two states which I have just mentioned—the chronic state and the acute crisis.

In order to explain things more clearly it is now usual to draw a comparison between appendicitis and inflammation of the throat, for we know that the initial lesion of the appendix—an organ which has a lymphatic tissue exceedingly developed—is a chronic folliculitis, comparable to that of the enlarged tonsils and adenoid growths; we know also that acute disease of the appendix may vary from a simple hæmorrhagic spot of folliculitis to the gravest gangrenous lymphangitis, states which are comparable to more or less violent attacks of acute tonsillitis or adenoiditis. And going farther in the comparison, I am of those who assert that if in both these kinds of cases the best treatment is by a surgical operation, in acute attacks it is prudent to let the inflammatory accidents subside before using the knife. My first care will be now to explain in what clinical ways chronic appendicitis reveals itself to us and what are our elements of diagnosis. It is not rare during post-mortem examinations or during various laparotomies to find evident lesions of the appendix in patients who had never been suspected of appendicitis. But perhaps these cases, whose symptomatology is really *nil*, would be more liable to exception if explained by their true cause—that is to say, by chronic appendicitis; some kinds of gastro-intestinal derangements, however, we are beginning to trace to appendicitis and to cure by appendicectomy.

In their common form such conditions are marked by gastro-intestinal atony, frequently attended with flatulent distension of the abdomen, by dyspepsia, by eructations, and by constipation, which is often obstinate, is sometimes interrupted by diarrhœal discharges, and may be caused by particular kinds of food. I have had under my care some patients who could not bear even milk and eggs and whom I was obliged to feed with vegetables only. These patients have, as a rule, the tongue coated, the breath offensive, the complexion greyish and even subicteric, a capricious appetite, and habitual nausea. It is not rare for them to suffer also from gastralgia or stomach-ache coming on without known cause and very variable in frequency, intensity, and duration. The patient feels a sudden, sharp, and not well localised abdominal pain, associated with sudden pallor and even a fainting sensation. It is easily understood, then, that in certain serious but exceptional cases the growth of children may be stopped by such digestive disorders and a real cachexy may be established. Certain patients who had for years been treated for obstinate dyspepsia, even for supposed intestinal and peritoneal tuberculosis, or (in the case of adults) for supposed intestinal or gastric carcinoma, were really suffering only from chronic appendicitis. However latent the local symptomatology of appendicitis may be it is generally found that a feeling of weight, an indefinite pain, or at least some degree of uneasiness draws attention to the right iliac fossa and on careful palpation we feel, under an abdominal wall normally depressible, the cæcum a little thickened and without flexibility, expanded with gases and gurgling; sometimes also a small tumour rolls under the finger and is due either to the appendix itself or to enlarged lymphatic glands, although nothing enables us to determine this point with certainty. Deep palpation, especially on McBurney's point, gives rise to a slight pain which can be recognised either by the patient's testimony or by a small defensive contraction of the wall. These local signs teach us to explain by something of ileo-cæcal origin the abdominal disorders observed; they exclude, for instance, some incomplete forms of nephritic or hepatic colic; but they may lead to error for they may be signs of a commencing tuberculous disease of the cæcum. We must not neglect this lesion, rare but puzzling as to its diagnosis, because it may break out with an acute crisis and even an iliac abscess. Once I have been thus mistaken when I thought to operate on a simple appendicitis after subsidence of the acute attack; on another occasion I saw a patient for whom another surgeon had opened an acute abscess which remained fistulous. I must confess that I cannot define here the elements of a precise diagnosis; at least in those cases where nothing of a tuberculous nature exists either in the abdomen or elsewhere, even when cæcal infiltration is advanced.

Until now I have spoken of a symptomatology always obscure. There are, however, cases or accidents more marked and manifested by special and paroxysmal phenomena, amongst which vomiting in variable forms seems to hold the first rank. We may observe, firstly, children who in the morning only frequently vomit their food, although they rarely vomit bile and do not show any rise of temperature. In certain cases these vomitings become habitual and so profuse as to be a grave hindrance to nutrition. I remember some children relatively young—between three and five years of age—who after an attack very variable in acuteness and form were unable to take any other food than vegetable broth. To some not quite compulsory vomitings may be added very different symptoms occasioning real difficulties of diagnosis. I remember a girl who suffered from obstinate constipation, headache, and retraction of the abdomen *en bateau*, so that one of my colleagues diagnosed tuberculous meningitis. Another patient, a boy, was, on the other hand, constipated with large meteorism, and another patient had acute intestinal obstruction with fæcal vomiting but without fever. However, he had only a paralytic reflex obstruction and two hours afterwards the opiates employed provoked the emission of gases and the end of every symptom. These patients recovered after removal of the appendix. In the main these cases constitute a series in which the symptoms of dyspepsia with gastro-intestinal flatulence are exaggerated either continually or by sudden attacks. Palpation and observations of the temperature prove that infectious phenomena are nearly *nil*. When an operation is performed we find sometimes some old peritoneal adhesions but more often we find none and the alterations are those due to simple chronic appendicitis. One can only see on the mucous membrane the hæmorrhagic stippling of one or two points of folliculitis.

In another series the infectious element becomes more important and a very frequent clinical form is the one where, although the initial dyspepsia may be very slight or even absent, there suddenly breaks out every sign of an *embarras gastrique fébrile;* sometimes after too plentiful a meal, sometimes without any appreciable cause, the child has an attack of indigestion with vomiting of food, the temperature very quickly runs up to 39° or 40° C., the breath has a the tongue becomes coated, and sour smell. At the same time he experiences abdominal pains which are localised either round the navel or in the right iliac fossa and on palpating this latter region you find some pain at McBurney's point, a slight muscular resistance, but no trace of phlegmonous infiltration. These last objective signs allow us to make a precise diagnosis if we are called in at the very moment of this slight attack and so we have learnt the great clinical value of *embarras gastrique* irregularly repeated in the previous pathological history of patients either suspected to suffer from, or really suffering from, chronic appendicitis. Beware of these frequent indigestions which mothers treat with an emetic or some other domestic medicine, when to the vomitings are joined a sudden fever and colic principally on the right side. Those accidents, even when not attended to, do not last more than one or two days. But in some cases they grow worse and more frequent, so as to present the classical appearances of the periodical acetonæmic vomitings of childhood. I have pointed out facts of that sort and have spoken of children treated during several years for such a disease by eminent medical men and restored to health only by the removal of their chronically inflamed appendices; I have also said that for that kind of patients it was very important to pay serious attention to the spontaneous pain or to the one excited by pressure on the right iliac fossa. I said also that for those patients it was necessary to trace the physical signs of chronic appendicitis, such as I have just described them. We shall acquire in so doing the elements of a sure diagnosis which is sometimes neglected. But I have not said or thought anything more on the subject and I have been very surprised to read in some recent papers on the matter that I considered always the periodical acetonæmic vomitings as a form of appendicitis. When these patients are operated upon it will be found that appendicular or peri-appendicular inflammations are, on the - - than in those of the first series, which average, more int have only dyspepsia with little or no rise of temperature. And here, with the ordinary folliculitis joined to an old sclerosis, we find sometimes *omental adhesions*; *but one may say that, with some exceptions, these changes do not require immediate surgical interference, however alarming* the symptomatology may have been. The impression produced in these cases, paradoxical as the statement may appear, is that of an acute symptomatology associated with a chronic pathologico-anatomical lesion, and certainly in these cases post-mortem examination will never cause the surgeon the regret of not having operated *rapidly* enough to anticipate the infection. Besides, if we examine thoroughly these patients' pulse, temperature, and functional indications of general or peritoneal infection, and if we ascertain at the same time the depressibility of the ileo-cæcal region under palpation, we do not find in these signs any indication for an immediate operation.

However, I shall not decide that the surgeon is never to interfere in these cases. Rather, on the other hand, I think that it is only to the surgeon that these patients should go, and it is convenient to state now the aphorism I shall soon fight for in another sense—namely, the aphorism "that there is no medical treatment of appendicitis." I admit that patients who suffer from *chronic appendicitis* and enjoy uninterrupted rest and take an exclusively vegetable diet may, if not cured, have at least no acute attacks and nothing save some insignificant uneasiness. But although that rest may be obtained for grown patients (exception being made *for the working class*), *it is impossible* to obtain it for children, especially *in the case of boys in* whom severe exercise, fatigue, articles of food *consumed surreptitiously*, and often some unknown cause, may readily excite grave attacks by which life is suddenly threatened from *peritoneal* or even general infection. And then is to be considered *the grave question*, *Must* the surgeon operate during the acute crisis? *In order to take*, I *do* not say an absolute and final, but a reasonable, *step we must first* consider the dangers we have to deal with. When an acute attack occurs in an appendix, whether it has or has *not* been already the subject of chronic irritation, the initial lesion *seems* to be the same as I have described above—namely, folliculitis, more or less intense, more or less limited. But from it may result a *real* lymphangitis, grave and diffuse, simple or gangrenous, *perforating* or not. Then the phenomena of general infection and *peritonitis*, which had remained at the second stage in the preceding *forms*, attain their full *development*. General infection seems to be conveyed especially through the veins. The origin of some cases of pyæmia with *predominant* hepatic abscesses is without doubt a pylephlebitis *starting* from the vermiform appendix. In other cases there is a true septicæmia, without any suppuration of the liver, which, however, undergoes fatty degeneration with extraordinary rapidity. The appendix is generally found to be *gangrenous* in these conditions but this is not an indispensable concomitant. Lesions are *found* which are sometimes so insignificant that after operation we have some *reason* to *think that in* reality we are in presence of a septicæmia, *originally* intestinal, where the appendix is unquestionably infected to a certain degree, but is involved only for a part and even for a very small part of it. These forms, which are *not* very well known to us yet, are *anatomically* and clinically very different from those in which accidents *special* to appendicitis depend upon the particular anatomical connexion between the appendix and the peritoneum. Then two principal *forms* are to be considered *according* as the peritoneal inflammation is or is not circumscribed by adhesions, for diffuse peritonitis, more or less septic, and encysted peritonitis ending by a localised abscess evidently have a very different prognosis. *The gravity of these* general or local infecting accidents is extremely variable. They stand between the slight attack with very sudden and transient high fever and those in which death occurs in two or three days. And it is easy to understand that these catastrophes haunt our memory, the more because the beginning of the illness does not always allow us to guess with precision what will be its ulterior evolution *Hence* arose the *opinion*, tempting because simple, that the *surgeon* must always operate in acute appendicitis as soon as he is called to give his advice. 12 years ago it was the opinion of almost all surgeons, myself included, and I am convinced that in acting as we did at the beginning of our practice we saved many lives. It was at a time *when our* surgical activity was checked by numerous *physicians*, reactionary leaders of medical therapeutics. By taking the general average of the statistics of various operators we arrived at a *mortality of about* 25 per cent. and in spite of some medical *statistics published* at the time I am persuaded that our *success was infinitely superior to that of our opponents. As they have become less and less numerous it is useless to* refute them now.

However, their assertions were partly true. Very often, after rejecting our recommendation of immediate operation, they obtained the resolution of what was formerly called perityphlitis and is now named appendicitis and on our part we became aware that for patients whose attack had passed off under medical treatment the operation performed in the interval between attacks, *à froid* as we say in France, was very much better. It allows easy removal of the appendix, which is not always possible amongst the adhesions of an encysted peritoneal abscess. It almost always enables us to obtain primary union after careful suture and so we avoid the hernia which is *so frequent after an abscess* has been incised. Moreover, it not only saves the patients *from these* ~~*two*~~ causes of a second operation more or ~~less delayed~~ but it also yields a reduced mortality of 10 per cent. instead of 25 per cent. in the hands of the same surgeons. We exclude, of course, operations for chronic appendicitis, the mortality of which is almost *nil*. I am speaking now especially of the acute cases that are brought *to* the hospital, including those which we see for the first time when *they are already* suffering from diffuse peritonitis and almost hopeless. I insist on that point because there is an important difference between private and hospital practice. In the acute attacks, with localised suppuration, we are liable to inoculate with the pus the adjacent *peritoneum* not *protected* by adhesions. Then follows a fatal peritonitis *and now we know* that a too early operation was the cause of this diffusion. *So a general* understanding was arrived at, or nearly *so*, *between the* members of our Surgical Society in Paris and the debate which took place in 1903 proved that almost all our colleagues, *renouncing the rule they had adopted in* 1899, had given up the *practice of always operating immediately*. They think now (and it has been my *opinion since* 1898) *that the rule must* be, Operate immediately if you are called within *the first* 24 hours following the outburst of the acute attack, but when you are called afterwards you must act according to the indications given by each individual case, and then with *the idea of calming* as much as *possible the* attack before operating. It is certain that the early operation, in the first 24 hours, before *perforation* or gangrene, before adhesions and suppuration, can be performed under anat*omical conditions* almost identical with those of the operation *à froid*, and nearly all the objections previously mentioned are then of no account. But in order to act in this way our diagnosis must be absolutely certain and in children this is difficult to obtain, in association with *certain clinical* features understood by all practitioners who are in the habit of attending or operating upon children, and this is the reason why they came to a general agreement about the subject The causes of error exist both for peritoneal and septic forms. When a child presents symptoms of acute peritonitis it is often more difficult to decide quickly in him than in an adult whether the appendix is attacked. Tubo ovarian inflammation *no doubt* conduces to error in the case of women but less than *pneumococcic* and gonococcic peritonitis in childhood, and we *must remark* that in a great majority of cases the pneumococcic *form attacks girls* and that the gonococcic cases are exclusively reserved *to them*. *The diagnosis* is generally easy when the right iliac pain is clear, *immediate, localised* and sharp, spontaneous or excited by pressure; when in a *few hours* the phlegmonous swelling with muscular *defensive contraction* of *the* abdominal wall is evident. But we must be cautious when children say that their abdominal pain is around the navel and when the swelling is relatively *slow* in forming. Besides that the pain limited to pressure with *muscular* contraction may also exist in the forms of peritonitis which I mentioned, for pneumococcic peritonitis is usually more or less encysted around the initial point, and gonococcic peritonitis starts from a tube, without, however, *any* tubo-ovarian tumour which could be found by rectal *investigation* as occurs in *women*. In gonococcic peritonitis the patient's *state* soon becomes *very* grave; the pulse is frequent, very small, and very weak; there is also cyanosis of the face; and these symptoms should attract *our* attention if the girl is suffering from vulvo-vaginitis. *But* at the commencement of pneumococcic *peritonitis*, save in the rather uncommon case of a previous pleuro-pneumonia, the nature of the case is quite uncertain and remains so up to the moment when pus is formed in the abdomen. As a rule, immediate diagnosis is impossible. On the other hand, it is certain that opening the peritoneum most seriously aggravates the virulence of the gonococcic infection; it also aggravates pneumococcic peritonitis just as much in an early stage before the formation of pus. The first of these two forms of peritonitis will never be amenable to surgical treatment; the second one will be but not in the initial stage. In fact, in both forms one may meet with serious complications if one tries exploratory laparotomy. On the other hand, laparotomy does not cause any injury in the beginning of tuberculous peritonitis simulating the beginning of appendicitis.

Another difficulty arises in children when symptoms closely resembling those of an appendicular attack, without iliac swelling, but accompanied with sudden fever and vomitings, are due to intestinal helminthiasis. In some of them the crisis ends after one or two days by the spontaneous evacuation of the ascarides. As early as 1893 I had one of these cases published by my pupil Jacob in his inaugural dissertation. These cases have been used to support the hypothesis that appendicitis may be provoked by intestinal worms. I believe this hypothesis to be unsound, but such facts must put us on our guard against performing an operation when we are not able to establish with precision an immediate diagnosis. Certain septic conditions without any peritoneal symptomatology but with pain at McBurney's point give rise also to mistakes. For instance, I see occasionally children who are supposed to be attacked with appendicitis and who are suffering in reality from pneumonia with an abdominal "stitch." This condition is easily diagnosed if the classical stethoscopic signs exist at the same time. But the perplexity is great in the case of a central pneumonia where the signs become manifest only after two or three days. These cases are not rare enough in children to give us a right to neglect them. Similar conditions also occur in association with pleurisy. Lastly, one must bear in mind, still more, I believe, in children than in adults, the possibility of typhoid fever beginning suddenly with vomiting, iliac pain, and even enlargement of the cæcum and its lymphatic glands. I have observed two cases, particularly obscure, where typhoid fever began in this way, though I knew that they were undoubtedly suffering from a previous chronic appendicitis.

My personal opinion and that of all my Parisian colleagues who are familiar with the treatment of the diseases of children is that these unavoidable doubts in diagnosis hinder us from adopting the rule (excellent in cases where the diagnosis is certain) of operating in every case within the first 24 hours. Again, we are ordinarily not called in soon enough for this because the small and slight attacks, which are by far the most common, are usually regarded by the mothers as indigestion and treated by them as such, so that when the medical man is summoned some time has been already lost and still more is wasted before the surgeon arrives. The opinion which begins to prevail is to the effect that when for one of the reasons stated we have begun waiting we must continue to do so, whilst studying from the moment we are summoned the clinical indications for an immediate, early, or postponed operation in each particular case. I think it useless to insist before you on the clinical phenomena which in diffuse peritonitis require immediate surgical interference—such symptoms as want of correspondence between pulse and temperature, green vomit, anuria, dryness of the tongue, alteration of the facial expression, and retention of the intestinal gases are all signs of diffused peritonitis or of peritonitis on the point of becoming diffused. We must except, however, patients brought to the hospital who are presenting these symptoms after a fatiguing journey and who feel themselves much better after some hours' rest. In these forms of diffuse peritonitis some surgeons, thinking the case hopeless, decline to operate and allow the patient to die. I believe that they are wrong, for now and then some cases judged to be hopeless have recovered after laparotomy. One might argue perhaps that peritonitis was not, in such instances, truly generalised. But the clinical fact remains that when the symptoms of generalised peritonitis exist recovery after a surgical operation is possible though exceptional. We must therefore operate without aiming at being able to show brilliant statistics. Encysted peritonitis must be operated on immediately only if an abscess has formed; in that case immediate operation is followed by remarkable success and we must not delay it if after the third or fourth day the fever persists and runs high and if there is swelling in the iliac fossa or beside the rectum. Further, without joining the few who advise waiting for fluctuation, we must come to an understanding about such cases. When in operating we find pus we must not conclude that the operation could not have been postponed until the day after, as has been said by many observers. For instance, in operating a long time after the subsidence of an attack we discover around an appendix sometimes calculous or even perforated remains of an abscess (caseous matter between adhesions); surely in these cases there has existed pus which has become harmless.

Things being so I have not been very surprised that in spite of the scientific precision of laboratory investigation the study of leucocytosis of the blood has led several observers to contradictory conclusions. We have in this condition a valuable indication but not the positive criterion desired by some surgeons and we must be content to associate it with the whole of the physical and functional phenomena of which I am going to speak in studying the cases in which we attempt to calm the attack. In doubtful cases we should inquire what medical treatment has been applied during the preceding days. In fact, it is sometimes astonishing how rapidly judicious treatment acts on patients who have been made worse by the use of purgatives and by inappropriate feeding. I consider it useless to give here particulars of what is meant by "medical treatment" in the acute attack. It may be recapitulated in few words: complete deprivation of food, only a few spoonfuls of pure water, and large bags of ice on the abdomen. In former times I always prescribed opium, now I give it only when specially required, when colic is very painful and not explained by an increase of the iliac swelling. I must especially draw your attention to the dangers of purgatives and must remark that patients who take milk or broth do not follow the regimen strictly. Patients thus treated must be carefully watched so that they may be operated upon, not only when the slightest appearance of peritonitis is noticed but also if the fever does not yield quickly and if the local swelling progresses. From all this it results that we should delay less when there is pelvic localisation of the swelling, a form difficult to watch and of which the diagnosis is made by paying attention to some special clinical facts, such as vesical pain in passing urine, and above all by systematically exploring the rectum with the finger. We must also remember that we are not to act in the same manner with patients who live in town as with those who live in the country; these latter almost always require to be operated on immediately. According to all these preceding facts there is no absolute rule to be always followed, but a good clinical observer will rarely allow himself to be surprised by peritonitis during an appendicitis with local swelling in which he watches an abscess in formation; and then disappointments will be less frequent than from diffuse peritonitis following an operation undertaken too late or from one performed too soon after the beginning of a peri-appendicular abscess and before the protecting adhesions have formed between the deeply seated pus and the anterior abdominal wall. The real difficulties of diagnosis and the painful surprises for surgeons are not due to these encysted peritoneal forms but to certain forms of gangrenous appendicitis in which diffuse peritonitis with vomiting of green or even black material (without doubt the final phenomena) occur; but in which, until that brutal and final outburst, peritoneal symptoms remain unheeded. The patient is dangerously infected, highly feverish, pale-faced, sometimes looking sub-icteric with cyanotic lips, but in the abdomen we do not find clear signs. The initial iliac pain draws attention to the appendix but I have not verified that it was from the beginning specially intense. In palpating the abdomen we do not find any swelling and we often cause but little pain; even the abdominal wall can be sometimes on all parts easily depressed when the appendix is in its normal place, *a fortiori* when it is hidden far away from our fingers in such a region as the top of the pelvis or in the lumbar fossa. During the operation we learn why no swelling was felt, as then we find around the gangrenous appendix very little pus and but very few soft adhesions.

Every one of us has saved some of these last patients by operating upon them immediately after the diagnosis was made. But all of us, also, have with some others failed to make a diagnosis during a certain period. First, because these cases being of a kind in which positive local signs are missing, we are uncertain as to the appendicular origin of the observed septicæmia; and secondly, because the appendix being incriminated it is very difficult to establish an early diagnosis between the gangrenous form which requires the immediate excision of the appendix and some other very septic form in which macroscopic alterations of the appendix are very slight and where it seems that the shock of laparotomy and the effect of the anæsthetic do harm by stopping, even for a short time, the hepatic and renal functions, already embarrassed by the sudden septicæmia. There are cases of grave jaundice with vomiting of blood in which the yellow atrophy of the liver seems to be the result of an appendicular folliculitis at first sight insignificant; the operation, even when performed at the beginning, as soon as our attention has been aroused only by a slight sub-icteric tinge, does not improve the progress of the disease. Now I have seen two of these cases—in grown-up patients I must say—with jaundice, fever, and rigors, that improved little by little, so that some weeks afterwards I removed a sclerosed appendix with traces of old folliculitis but without any trace of peritonitis around it. Therefore, especially in these cases, we remain doubting and sometimes we allow death to ensue while we wait. We may even in diffuse peritonitis accuse ourselves of having lost a favourable opportunity, but there is nothing to demonstrate that in operating earlier we should have succeeded better. Experimental as well as clinical study teaches us that the most rapid excision of an inoculated point does not stop infection if it is of a certain degree of virulence; the more so if we are aware of the inoculation only by local and general reaction in connexion with it, especially when so deeply situated an organ as the appendix is concerned. Those cases are happily very rare. The common cases are the peritoneal ones. For these, well treated, sometimes (I repeat it) an abscess will cause us to perform an immediate operation; we shall be rarely surprised by diffuse peritonitis if the patient is carefully watched; generally we shall succeed in calming the attack. It is well, then, to remove the appendix about a month after, if the attack has been slight. When the crisis has been grave we must wait longer according to the case. When I began to practise I thought with many of my colleagues that the operation was not necessary after a first slight attack. Now, on the contrary, we have all agreed about the necessity of operating after such a warning. A relapse is not inevitable but it is frequent, and we cannot guess how intense a new attack might be. For this reason we are right in saying that there is no medical treatment of appendicitis. When we do not operate immediately it is but to give time for the acute crisis to subside; then the operation is less dangerous. I have always said so and I now insist upon it because some authors—whose only excuse must be their complete ignorance of my writings—have described me as an obstinate abstentionist. You will also kindly allow me, in conclusion, to quote the phrase I printed in 1900: "The true question is to decide whether non-operative treatment is capable of calming a crisis when instituted well and in time; and whether it is better to try this treatment as often as possible, so as to replace the immediate operation by a delayed one. To that question I answer in the affirmative."

Before closing this lecture I must briefly describe what I think is the best technique for the operation. This account will be short because opinions agree save for some details.

1. Diffuse peritonitis requires, first, a long incision in the right iliac fossa, through which I think we must always try to remove the appendix. Almost always we must add to that first incision a median one, and often a third one in the left iliac fossa. The drainage must be very free, with very large indiarubber tubes going in different directions in the abdomen and the pelvis. Sometimes I wash out the abdomen with boiled water or physiological salt solution but I do not employ this method regularly because I am not at all convinced that it improves the always unfavourable prognosis of the operation.

2. Encysted suppurating peritonitis is treated as a simple abscess, by a large opening. No rule need be given; the incision is to be made where the abscess is situated, on the right side or on the left, in front or behind. There is a divergence of opinion as to the treatment of pelvic abscesses. Some authors teach that the best plan is to open them by rectal incision. It cannot be denied that these abscesses after abdominal incision progress often worse than the other ones. On the other hand, they sometimes heal spontaneously by discharging through the rectum; hence came the idea to imitate that natural method of evacuation. In spite of some successes due to that proceeding, I do not think that it ought to become general. I esteem it dangerous for the high-situated abscesses, which we must search for blindly, with special trocars, and as to the lower abscesses, which can be felt by the finger near the anus, they almost always can be drained through the iliac fossa—sometimes through the left one—where there are swelling and adhesions. It is very rare to find that the appendix goes directly downwards and that an abscess has collected in the pelvis whilst the iliac fossa is entirely free. But when it happens so, the rectal incision may be of real help. I remember, for instance, a girl whose iliac fossa I opened; I found the peritoneum here normal but a hemispherical arch of adhesions transformed the pelvis into a large purulent cavity. Judging the escape of pus into the peritoneum to be dangerous, I immediately closed the abdominal wall and opened the abscess by the rectal route. The patient recovered rapidly. After the spontaneous or surgical opening into the rectum, it is scarcely necessary to say that the appendix is not treated and frequently it gives no more trouble. Not always, however, for twice I have been obliged to remove it afterwards on account of persistent septicæmic disorders. The discussion as to what is to be done with the appendix in localised abscesses has to do with abdominal incisions. Some surgeons have advised its removal always at once. They say that it is the only sure way to stop the peritoneal infection around it and later to prevent such accidents as fistula, relapsing attacks, &c. But by breaking the adhesions and by inoculation of the serous cavity this method may cause post-operative diffuse peritonitis. In these cases I remove the appendix only when I see it easily under the adhesions and owing to my experience of these cases having extended I act in this way more and more often. I tie the appendix and cut it with the thermocautery; the cæcal wall is too much softened to bear a suture destined to bury the stump.

3. In the delayed operation, *à froid*, as we say, the *absolute* indication is to remove the appendix, and whatever may have been said it is always possible but not always easy. First, the appendix may hold in the abdomen various positions scarcely accessible when adhesions exist; secondly, because even when we can easily discover the appendix some difficulties and dangers may arise from adhesions and from relics of old purulent matter. We must be possessed with the idea that a positive diagnosis of this state is often impossible. It may happen that we feel in the iliac fossa the cæcum scarcely thickened or painful, yet in operating we find either behind the ascending colon and near the liver or in the upper part of the pelvis an adherent appendix surrounded by caseous matter.

For that reason I gave up the vertical incision known in Paris as "Jalaguier's" by which the appendix is removed through the aponeurotic sheath of the right rectus muscle. This muscular band lies afterwards opposite the sutured aponeurotic incision and prevents the occurrence of a subsequent hernia. By this method the removal of the appendix is very easy in simple cases but when we have to seek it deeply and when the cavity must be drained we expose ourselves to serious troubles. Therefore, after several attempts, and each time after cases where in operating I found unexpected difficulties, I adopted again the oblique iliac incision named "Roux's incision." But in this the muscles are divided and even after very good primary union a hernia is to be feared. Then I adopted finally the proceeding of McBurney in which after an oblique incision of the skin the muscles are not divided but separated between their fibres. The way to the ileo-cæcal region is very direct and if we meet with difficulties, with lesions calling for drainage, we can cut the abdominal muscles upwards or downwards and we have then all the advantages of "Roux's incision."

I have done now with these questions of technique; I could expound to you a general method but I should fear to become wearisome in detailing to you how to bury the stump or to close the abdominal wound. Moreover, I have already occupied your attention too long, whilst forcing upon you my bad English. You will forgive me, I hope, on account of my goodwill for having spoken myself instead of intrusting your secretary with my translation and the reading of it.

An Address

ON

DYSPEPSIA.

Delivered before the Cleveland Branch of the British Medical Association on Feb. 21st, 1906,

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MR. PRESIDENT AND GENTLEMEN,—The rapid rise and marked success of the operative treatment of organic diseases of the stomach of almost all forms is, perhaps, the most remarkable feature of the steady and irresistible advance which surgery has been making against abdominal disorders during the last 20 years and it has resulted, as we all know, in the transfer to the surgeon, so far as curative treatment is concerned, of, I think it may be said, the great majority of the cases of organic disease which in former times remained for weal or woe, to the end, in the hands of the physician. Whilst this transfer of work from the medical to the surgical side has relieved the physician of much that was unsatisfactory in the highest degree, consisting, as it did, of the prescribing of drugs and the ordering of diets, of which he had little but a purely empirical knowledge and with results which were for the most part disappointing to him and to the patient, it has, at the same time, very largely increased his responsibility in the matter of diagnosis and consequently in the advice which he should give as to whether surgical or medical measures should be adopted in any given case.

To the pessimistic physician it has at times seemed that surgery would very soon leave him without an occupation so far as diseases of the abdominal viscera are concerned, but so far is this fear from being realised that a notable increase in the number of those seeking a medical opinion may be observed directly traceable to the increased prevalence of surgical operations in the community. It may truly be said that Function is the special care and study of the physician whilst Structure is the special care and study of the surgeon. The physiological standpoint is the standpoint of the physician, the anatomical that of the surgeon. He who views disease of whatever kind from the anatomical or structural point of view very naturally seeks for an anatomical or mechanical basis or lesion to explain the disease, and he naturally sees nothing but a mechanical—that is a surgical—procedure for its cure. But we live and have our uses by function and not by structure, and our functions being good enough for our purposes we are very wisely quite indifferent as to our structure. The focal or anatomical view of disease and its eradication by surgery is, and always will be, the most attractive view both for patient and practitioner and very naturally so, and it is consequently not to be wondered at that it is extremely difficult for the surgeon as well as the patient to keep himself entirely free from a bias or prejudice in favour of the anatomical or surgical view of the malady in question and it is in supporting and strengthening the patient, and not infrequently the surgeon as well, against this natural but possibly dangerous bias, that the physician at the present day finds no small employment. If this is so it clearly behoves the physician so to equip himself that he may do his part with perfect justice both to the patient and to the surgeon; on the one hand striving that all mechanical conditions in the stomach which need it shall at the earliest possible moment have the advantage of that mechanical, surgical treatment which alone can be of any lasting service and, on the other hand, that all non-mechanical —that is, what we call functional—disorders shall be saved the pain, danger, and cost of ineffectual and unnecessary procedures. In former times, when a diagnosis could lead to nothing more than medicinal and dietetic treatment, no very great responsibility rested with us, for whatever wrong we might do we did not expose the patient to any greater danger or delay than that involved in ordering an acid when perhaps an alkali would have been better, or instructing him to take white meat instead of red, or to drink Vichy water instead of soda-water, or sending him to Harrogate instead of to Carlsbad. Now all this is altered and I say at once that a physician who wittingly, or unwittingly, wastes the time and resources of his patient in the medicinal or dietetic treatment of what he knows, or ought to know, is due to a detectible anatomical or mechanical condition in the stomach which only surgery can relieve fails in his duty to the patient and to himself, whilst he equally fails if he subjects his patient at the hands of a surgeon to a useless and therefore unjustifiable operation. It is in order to invite discussion on the relative frequency of the occurrence of cases of gastric disease, which an operation alone can cure, that I have taken "dyspepsia" as my text this evening.

The term dyspepsia is used by the lay public to cover every conceivable disturbance of digestion and every abnormal sensation that can be referred to the abdomen. With us it means nothing more than that the natural process of digestion is disturbed and no longer painless and pleasurable as it ought to be. The moment we have found a mechanical explanation for the disturbance in question the case ceases to be for us one of dyspepsia and becomes one of pyloric obstruction, gastric ulcer, carcinoma ventriculi, or what not. The term dyspepsia, if we continue to use it, should mean for us a disturbance of the digestion of food, which is due to a functional and not a structural defect on the part of the stomach—that is, a defect in its secretion or in its motility, or in both. My main purpose is to ask the question, Is such dyspepsia of frequent occurrence or does it indeed exist? My own belief, after a careful consideration of my experience, is that it is a very rare disorder, and that when abiding persistent dyspepsia or painful digestion of food is present it is most commonly due, if due to the stomach at all, to physical changes in that organ, which may or may not be discoverable on physical examination. I do not deny that dyspepsia in its slighter degrees is a very common ailment, but I venture to think that whenever it has reached such a degree of intensity as to become a matter for investigation by a medical man we should be very careful of our ground before we take up the position that it is due to functional disorder of the stomach.

Many gross and serious disturbances of gastric digestion are seen which are not dependent upon anatomical changes in the stomach but they are not therefore to be regarded as due to purely functional disorders of that organ. Indeed, I am prepared to say that by far the greater part of the cases of dyspepsia which I see, which are not due to organic changes in the *stomach are due to disturbances* outside the stomach altogether—are due, in fact, to blood states, circulatory disorders, intoxications, nervous diseases, &c.—that is *to say, given a normal supply of normal* blood and a normal state of the nervous system, the stomach, in the absence of organic structural changes in it or its orifices, *is no more likely to manifest* functional disturbances than the urinary bladder or any other hollow viscus, supposing its content to be of average normal composition.

I am no believer in wholesome food in its many varieties as a cause of indigestion. I am no blind prohibiter of tea, pastry, cheese, and pork in cases of dyspepsia. The infant who is fed on improper food (decomposing milk, &c.) and the man who drinks too much alcohol are both liable to gastr enteritis (that is, organic change) in varying degrees. T latter knows the cause of his ailment and can avoid it if l will. The former could and would, I believe, do the san if he could talk and were a free agent. When we allow ou selves to believe that ordinary articles of diet in ordinal quantities are a cause of dyspepsia, it is then that we are i the greatest danger of overlooking serious organic diseas The human stomach is by nature tolerant of—indeed, eag for—a mixed and very varied diet, and green apples, pork cheese, pastry, and tea are not abnormal constituent of it and, are not causes of disease. They do not al agree with everybody and *tastes differ, but we* are no to say on that account that they are causes of diseas and to forbid them to those who care for them. Foo is the *natural content of* the stomach and to believ that food is the cause of disease is just as dangerous to my mind, as to believe that cold causes peritonitis o that *open* windows are bad for consumption, or that puerperal fever arises from bad drains. I am not saying that the food content and structure being normal true functional disturbances of the stomach never occur. I only wish to state my belief that *they are so rare that they* should only be said to exist upon the clearest grounds. My firm opinion is that when dyspepsia of any severity or standing is present which can be shown not to be due to conditions outside the stomach there is great probability of its being due to organic disease of some kind in the stomach, even though it cannot at the moment be detected. How rarely one makes a diagnosis of dyspepsia in boys and how indiscreet they appear to us to be in the matter of food! They may occasionally vomit from excessive eating but for such moral delinquencies they do not naturally see a medical man. Whenever a boy is suffering from any substantial disturbance of digestion (and he very rarely does so) it will generally be found sooner or later to be due to organic disease either inside or outside the stomach.

There has been recently under my care in the Leeds Infirmary a man, 24 years of age, suffering from dilatation of the stomach due to simple pyloric obstruction. All the typical signs of this condition were present in a marked degree. A posterior gastro-enterostomy was done by my colleague, Mr. W. Thompson, and the patient left the infirmary in due course completely relieved of symptoms which had troubled him more or less for 12 years—that is, since his twelfth year—and his history is so instructive that I venture to bring it before you. When 12 years old he began to suffer from attacks of discomfort and actual pain after food lasting for periods varying in length from a few weeks to a few months, during which time he would be said to be suffering from dyspepsia and would be treated by various medicines and diets. Then for a few weeks or months he would be well and then another attack of "dyspepsia" would occur. The attacks gradually increased in length and the periods of remission gradually shortened until for the last two years he had never been free from distress more or less acute. At one time his stomach pains were relieved by food, a fact which many would say made one almost certain of the absence of organic disease. Then five years ago vomiting began and has been present in every attack since and when he came into the infirmary he had, as I have said, all the symptoms and signs of pyloric obstruction in a most marked degree and was reduced to an alarming state of emaciation and feebleness. It is impossible to escape the conclusion that this patient had been the subject of slowly increasing pyloric stenosis ever since his twelfth year and that he has waited 12 years for the only remedy—gastro-enterostomy. What various opinions must have been given and what various drugs and, above all, what various diets he must have suffered in those 12 years! No one was to blame; according to the views of 12 years ago he suffered from dyspepsia and was treated accordingly. With our present knowledge how difficult and even impossible it is to make a correct diagnosis in the early stages of the diseases of any internal organ and the stomach is no exception to this rule. Before the advent of physical signs in the abdomen—and these are to my mind the signs of paramount importance in the recognition of organic disease—by what means are we to distinguish between disturbances due to organic disease and those of functional origin? In trying to answer this question may I put before you a few clinical impressions which I have formed in the shape of propositions as follows? 1. Given the same symptoms in kind and degree, age and sex have an important bearing. In children (not infants) and adolescents stomach disorders due to organic gastric disease are very rare in males, less rare in females. 2. In young women stomach disorders are frequent and organic disease—e.g., ulcer—is common. In older females stomach disturbances not due to organic gastric disease are common but not more common than in males. 3. Whenever a man in middle life, who has hitherto had a good appetite and a good digestion, begins to complain of persistent loss of appetite and a painful digestion, the probability is that if the stomach is to blame it is the seat of organic disease. 4. Chronic vomiting, if due to stomach disorder, almost always means mechanical disease. 5. Any case of gastric disorder, which is associated with marked loss of flesh, is almost always organic. Anæmia, and above all cachexia, have the same significance. 6. Any gastric disorder which is seriously benefited by rest in bed and by restricted diet is probably of an organic nature. 7. Many cases of gastric ulcer in women have no physical signs except tenderness on pressure. Hæmatemesis would, of course, never be allowed to be due to dyspepsia alone.

If, then, such manifestations as pain excited by food, vomiting, hæmatemesis, with or even without (if that is possible) anorexia, wasting, pallor, and weakness, and which are relieved by rest in bed and restricted diet, almost always mean organic disease of the stomach, what symptoms worth mentioning are left to indicate functional disorders of that organ? Sensations of fulness and heaviness in the abdomen after meals, flatulence, acid eructations, pyrosis, borborygmus, deficient appetite, and constipation are the chief of the symptoms commonly mentioned by patients and discussed by writers as evidence of dyspepsia, and if after careful examination of the abdomen and all other regions and organs of the body we can find no evidence of organic disease we are then, I admit, justified in saying that the patient with such symptoms is suffering from dyspepsia—that is, a functional and not a structural defect of the stomach. That such cases are of common occurrence I beg leave to doubt. Such complaints are common and they are common in persons who present no evidence of organic disease in the stomach but are they common in persons who, while presenting no signs of organic disease in the stomach, can be declared to be of sound health in all other organs and so by the method of exclusion can be said to be suffering from functional disturbance of the stomach pure and simple? I am strongly inclined to answer this question in the negative.

Let me direct your attention for a moment to one of these symptoms, viz., flatulence, in order to show, as I think I can, that its least common causes are gastric disorder and errors in food. Flatulent distension of the stomach or a sensation of it (for it is not by any means always associated with actual visible inflation of the organ) is a very common and very distressing complaint, yet how rarely is it complained of by those who suffer from organic disease in the stomach, such as pyloric obstruction. Eructations, belchings, rumblings, borborygmi, are not always associated with flatulence, neither is pain. In its most typical and most distressing form flatulence consists in the sensation of extreme distension of the stomach by stagnant gas, such as we see very commonly in angina pectoris and other conditions of grave circulatory embarrassment, and I cannot doubt that flatulence even in its minor degrees is much more a circulatory than a digestive disorder. How constantly we hear sufferers from angina pectoris say that the moment the wind begins to move relief comes—that is, as soon as peristalsis is restored by the recovery of the circulation in the walls of the stomach the condition of angina and flatulence is at an end. How many cases of angina pectoris in their earlier stages are called dyspepsia because of this flatulence and are treated in the worst manner possible in consequence by diminished food, purgatives, and enforced exercise! I have long thought that a condition of the stomach in all respects analogous to the condition of the heart in angina pectoris—i.e., muscle failure due to impaired blood-supply and consequent distension—is a very real indication of circulatory weakness in elderly people and should be treated as such by food, stimulants, laxatives, and rest. Flatulence, such as I have described, is always relieved by food, never by restricted diet, just in the same way as borborygmus is relieved by eating and not by abstaining from food. I believe, then, that flatulence is much more frequently an indication of circulatory failure than of indigestion and that it is therefore much more likely to be improved by encouragement to eat ordinary solid food than by enforcing any restrictions.

There is another form of flatulence which I am sure is far more likely to be benefited by feeding than by starving and that is the flatulence of elderly people which comes on in the earlier hours of the morning, especially in those who take very little solid food after midday. Next to flatulence loss of appetite is perhaps the most important of the disturbances which I have mentioned as being referred to the stomach. I sometimes think that we fail to recognise the full significance of an enduring impairment or loss of appetite. A good appetite is just as sure an index of a normal state of health as a normal pulse, a normal temperature, and a normal respiration-rate, but because we cannot record it in figures upon a chart we are likely to forget it, but without it, it need hardly be said, health cannot be long secure. I do not think dyspeptics, in the sense in which we ought to use the term, suffer much from want of appetite. Any serious and abiding impairment of appetite usually means serious disease in the stomach or elsewhere. How rare a thing is pure functional anorexia ("anorexia nervosa") in the experience of any of us and how common is the complaint of loss of appetite! The chronic alcoholic has a poor appetite, especially in the morning, but he is suffering from chronic gastritis or hepatic cirrhosis—i.e., organic disease. How many and fatal mistakes have arisen from a belief in an idiopathic gastritis or a gastritis due to the ingestion of ordinary articles of diet? It is not so many years since a boy was admitted to the General Infirmary at Leeds suffering from a fatal peritonitis which was gravely attributed to the eating of two green apples and the post-mortem examination revealed a strangulated retro-peritoneal hernia.

My contention is, then, that primary functional disorders of the stomach, worthy to be ranked as diseases requiring much thought and care on our part, are comparatively rare and that when we are confronted with persistent gastric disturbances, however trivial in character they may appear to be, the possibility of their being due to organic disease in the stomach or to disease outside the stomach rather than to a purely functional disturbance in the stomach should be ever present in our minds. How often has it happened to many of us to make a diagnosis of dyspepsia when the event has shown that we ought to have detected organic disease in the stomach itself or some other disease such as Bright's disease, cardiac disease, blood disorder, lead poisoning, diabetes, tabes, malignant disease of the liver, cerebral tumour, or pulmonary tuberculosis, not to mention pregnancy and neurasthenia. One of the gravest errors we ever make in respect of this matter is to believe that repeated vomiting is due to dyspepsia.

The surgeon not infrequently seems to speak in a reproachful manner of the physician's inability to recognise with certainty grave organic disease in the stomach in its early stages and we shall readily admit that a trustworthy diagnosis of carcinoma ventriculi, for instance, in its very beginnings is a matter of the extremest difficulty, and it cannot but be helpful to us if we can legitimately hold a strong reservation against the probability of functional disease. I have already said that I regard careful physical examination of the abdomen and of all other regions of the body as of paramount value in the explanation of stomach symptoms. Dr. Hutchison, in a recent address on dyspepsia, has expressed his regret that investigations by means of test meals and the use of the stomach-tube have not as yet become popular in this country in the diagnosis of stomach disorders. I think it may safely be said that if such methods of investigation had been shown by those who use them most to be of any real value in doubtful cases they would long before this have been in the hands of all of us. My own experience of them leads me to say that I have not found them to be of service in any case where a differential diagnosis of organic and functional disease could not be made by simpler, more trustworthy, and more convenient means. No one, I imagine, would condemn any patient to cancer, or even ulcer, of the stomach on a chemical examination of the contents of the stomach alone. Such investigations can only afford us confirmation of opinions already-arrived at by the simpler method of diagnosis. If a careful consideration of the symptoms, physical signs, and effects of treatment does not enable us to arrive at a decision in any case where the question of malignant disease is seriously raised, the only trustworthy method open to us is exploratory incision of the abdomen. The good effects of rest in bed, suitable food, and the use of simple drugs such as laxatives and sedatives are to be observed in almost all cases of organic disease of the stomach, malignant or not; indeed, nothing is more impressive, I think, than the prompt relief which confinement to bed brings to all forms of vomiting due to mechanical causes—even cancer.

This therapeutic test, as it might be called, is not always to be relied upon, for one sees not infrequently a marked remission of symptoms and an improvement in health in cases of obvious malignant disease under treatment by rest and suitable feeding. The earliest stages of malignant disease we can never hope to detect except by direct inspection of the stomach. Even then errors are unavoidable, for have not most of us seen cases in which the surgeon has declared the lesion at the time of operation to be malignant and the event has shown it not to be so? My experience of this kind of thing has so much impressed me that I have made it a rule to urge abdominal section in all cases where a lump is to be felt in connexion with the stomach.

Having done what in me lies to show that any functional disorder of the stomach which can safely and truly be designated dyspepsia is probably a negligible quantity in gastric disorders, it is necessary that I should briefly refer to the concrete and definite functional disorders which are described by writers on these matters. Such disorders undoubtedly exist but I submit that they are great rarities. In the first place, a word about motor neuroses of the stomach. Many motor neuroses are described such as "hypermotility," "peristaltic unrest," and spasms and insufficiencies of the orifices—all these are probably purely hypothetical conditions apart from organic disease, but atony and atonic dilatation demand some attention. At one time I was a firm believer in what is called primary simple or atonic dilatation of the stomach, meaning by that a dilatation which could be demonstrated and which produced symptoms, notably chronic vomiting, and which was curable by washing out the stomach, rest in bed, and a suitable diet. Professor T. Clifford Allbutt has done much to secure the recognition of this condition in this country and it was through him that I became a believer in a dilatation of the stomach which was independent of pyloric obstruction or any other gross mechanical condition. Time and a more extended experience have led me to abandon, perhaps not entirely, this idea and I now hold that any dilatation of the stomach which can be demonstrated by physical signs and which is giving rise to vomiting is almost always due to pyloric obstruction. Many people have what may be called "splashy stomachs" at times but they are not necessarily dilated stomachs in a pathological sense.

Such definite conditions as gastro-succorrhœa, or Reichmann's disease, and gastroxynsis are, I am sure, very rare clinical conditions, and though many cases have been recorded, chiefly by continental writers, there is little or no reference to them in standard English works on medicine. Hyperchlorhydria, too, is, I believe, rare apart from gastric ulcer, in which it is readily recognised as a causative factor in the more serious anatomical lesion. Gastrodynia and gastralgia, pains referred to, but probably not residing in, the stomach are well recognised clinical conditions, but we hear of neither of them with anything like the frequency with which we hear of dyspepsia. There is one remarkable and distinguishing feature common to all these functional disorders of secretion and sensation and that is that all observers are agreed that they are best relieved by liberal feeding with solid food, especially proteids. Such articles of diet as veal, beefsteak, asparagus, black coffee, and Dutch cheese are included in Biedert and Langermann's diet table for patients with gastric hyperacidity.

And still my object this evening is not to persuade you that all diseases of the stomach of any importance can be cured only by surgical treatment. Many cases are still treated to a successful issue by the physician alone. It will be agreed at once that all cases in which a mechanical structural difficulty exists in the cavity or orifices of the stomach surgery offers the only hope of cure or permanent relief. In cancer of the stomach, wherever situated, operation affords the only means of permanent relief. Cases of chronic inveterate recurrent or multiple ulcer, with or without hæmatemesis, should, when medicinal treatment has failed after a reasonable and efficient trial, be treated by operation. Large numbers of cases of simple gastric ulcer in its less chronic form are treated successfully by rest in bed and ordinary medicinal and dietetic means. So are most cases of hæmatemesis due to gastric ulcer, and no case of simple ulcer should, in the first instance, be treated by operation, and in no case of first hæmatemesis is operation at once necessary or desirable. We can all call to mind many appalling cases of hæmatemesis in women which have recovered without operation and in which an operation at the moment could only have added to their danger. Hæmatemesis in men is so much more frequently due to duodenal than to gastric ulcer and duodenal ulcers so rarely heal without gastro-enterostomy that I always regard hæmatemesis in men as requiring much more serious consideration than in women. In any case of gastric ulcer, and especially in duodenal ulcer, in which vomiting persists and hæmatemesis is repeated after careful medicinal treatment, including long rest in bed, we should probably resort to operative treatment.

To my mind then, the indications for surgical treatment in stomach disorders are not difficult to determine and all cases which do not present those indications are to be left in the hands of the physician, and I think I cannot do better than bring this somewhat discursive paper to an end with a [illegible] other than surgical at our very few remarks upon th disposal in the treatment of such disorders and here again I am afraid I shall be found in a somewhat negative or even destructive attitude.

In the treatment of all stomach disorders diet still holds the foremost place in the mind of the patient and frequently also in the mind of the practitioner. I believe in stomach disorders, as in most others, that the patient's appetite and his experience are his best guides and I am usually content with ordering such patients such articles of ordinary diet as they like and which they find agree with them. I very rarely prohibit meat, or cheese, or tea, or pastry of any kind, and if the patient likes pork and it agrees with him I ask him to take it. I usually prohibit all alcohol, as well as all what I may call manufactured non alcoholic drinks, and I always enjoin the drinking of water in large quantities even at meals. The articles of diet against which I generally warn sufferers from gastric disorders (including ulcer of the stomach) are what are generally known as "slops," such as broth, soup, beef tea, and porridge, raw eggs (and indeed uncooked food of all kinds), jellies and "messes" and second cooked things, and all foods out of bottles, tins, and boxes. I am sure dyspeptics are better without sugar and sweet things generally. I am constantly seeing people who cannot take milk in bulk and I think it is far from being an ideal food for adults either in disease or health. It is certainly no more digestible than meat and what are called milk diets by their bulk and insipidity are very soon distasteful to the patient. In the same way I find that well-made pastry frequently agrees much better than the bulky farinaceous puddings. Cold meat, boiled or roasted, can frequently be taken when hot meat disagrees. No case of gastric ulcer can, or should, be treated except in bed. I am accustomed even in this disorder to abstain from ordering milk diet. If there is great pain after food, especially if there is hæmatemesis, I prohibit all food and give only water, and plenty of it, by the mouth. I do not believe in rectal feeding; it is very distasteful and sometimes painful to the patient and it is of no real value. I have seen the most troublesome and offensive proctitis set up by nutrient suppositories. Many cases of hæmatemesis have been treated successfully in my beds by absolute rest and the administration of plain fresh water by the mouth and nothing else, unless a very little morphine is given, also by the mouth, to relieve pain and restlessness. I rarely use the so-called hæmostatics but in deference to public opinion I have occasionally ordered such inert substances as chloride of calcium to be given in large doses, also by the mouth, and I have occasionally used adrenalin which is a powerful and active substance and should be given with care.

Of the drugs in common use in stomach disorders laxatives occupy the first place in my estimation and of them I believe rhubarb is the best. Our old-fashioned rhubarb mixtures consisting of rhubarb, soda, and peppermint are excellent things taken after food for what we call the chronic, middle aged, constipated, flatulent dyspeptic. Most of the official preparations of rhubarb, including the powder, are too pungent and nauseating. I find the concentrated infusion most agreeable and efficient. I am one of those who believe that constipation is a real evil and cannot be treated too persistently, so long as it is treated intelligently. The salts of bismuth hold a deservedly high place in all painful and irritable conditions of the stomach, including ulcer, and, of course, cancer, but the old-fashioned bismuth mixtures are not nice things to take and I am glad to find that the practice of giving carbonate of bismuth in large doses simply stirred up in water is now very generally followed. I do not think that morphine is often necessary, except, of course, in the pains of cancer, and in that case any dose which is necessary to keep the patient at ease should be given ungrudgingly. If the bowels are kept acting daily by means of rhubarb and the kidneys are kept acting freely with water I am accustomed to give morphine in any dose that may be necessary. When large doses are required I prefer to give it by suppository. Such things as lactopeptin and taka-diastase and other artificial digesters are for the most part as expensive as they are useless and therefore unnecessary

May I remind you that one of the most striking things we see in hospital practice is the astonishingly simple diets and medicines with which we manage to deal with our patients, and I believe just as successfully as with the more varied and expensive foods and medicines which so many think necessary in private practice, and it is from hospital practice that I have learned to believe in the simple foods and medicines to which I have referred. I apply to the dietetic management of the stomach disorders the same rule which I ventured to advocate some years ago in the management of typhoid fever—viz., that no further restrictions in diet should be imposed than loss of appetite and impaired digestion indicate—that is, that the patient should take what he likes of ordinary articles of diet in so far as he knows they agree with him. Bulk is of much more consideration than kind in deciding what food should be given in gastric ulcer and all other stomach disorders.

In saying what I have said about food in stomach disorders I have not intended to shock what I know are the firmly held convictions of many whose authority to speak in these matters is far greater than mine. I have tried to tell you as clearly and as frankly as I could the methods which I constantly practise and which I constantly advocate and which I have no reason to believe have fallen seriously behind other and more orthodox methods in the measure of their success.

PNEUMOCOCCIC PERITONITIS IN CHILDREN: A STUDY.

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DURING the eight months in which we were working together at the East London Hospital for Children no less than four cases of peritonitis of the somewhat rare variety caused by the micrococcus lanceolatus came under our notice. The obscurity of the cases caused us to look up the literature on the subject, and the small number of cases reported in England and the slight attention which the condition has received in this country are our excuses for publishing the following account of the condition.

In 1885 da Bozzolo[1] described a case of infection of several serous cavities with numerous capsulated cocci in the exudate following on a nephritis. The case, however, was not fully worked out. In the following year Cornil[2] performed a necropsy on a case of pneumococcic peritonitis following pneumonia and associated with double empyema and pyopericarditis. During the next year or two isolated cases were here and there reported and in 1890 Nélaton[3] undertook the first operation for the relief of the condition in a woman, aged 32 years, but without success. Galliard[4] and Sevestre[5] also operated during the same year on cases of pneumococcic peritonitis, Sevestre's case being a child with apparently primary involvement of the peritoneum. This case recovered and remained well. On the continent numerous examples of the disease now began to be recorded, for the most part from France. In 1903 von Brunn[6] was able, in an excellent paper on the subject, to collect 57 cases of the disease in children and a further 15 adult cases. In the same year Jensen[7] of Copenhagen published a lengthy article on the disease and in this he discussed the affection very fully. These two papers are up to now the most important contributions to the subject. Since the date of von Brunn's paper, Matthews[8] and Bryant[9] have brought forward fresh cases and have written on pneumococcic peritonitis; other papers have been contributed by Quervain[10] and Ghon,[11] while cases have been reported by Panzacchi,[12] Brun,[13] Powell,[14] Taylor,[15] Waldo,[16] epigastrium the stomach resonance may practically always be elicited, even with the most advanced distension. With great swelling of the abdomen the veins on its surface may become prominent. During this stage the temperature is slightly elevated, the diarrhœa has ceased, and constipation may be present. Vomiting is uncommon. The patient usually wastes and in advanced cases the abdominal distension may offer a marked contrast to the general emaciation. On the other hand, the general condition sometimes remains good. The third phase is only present if surgical intervention has not been attempted or allowed and depends upon the natural endeavour to evacuate the abscess. This usually points about one month from the commencement of the illness and in most cases by this time the child is gravely ill, the cachectic appearance and distended abdomen often suggesting advanced tuberculous peritonitis. The usual site of perforation is the umbilicus Jensen states that in 25 cases of capsulated peritonitis perforation at the umbilicus occurred in seven and of eight similar cases following pneumonia the site of perforation was the same place in six. Perforation at other sites is rare, but the pus has been described as escaping through the vagina in several cases and through the bladder once.

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[1] Da Bozzolo: Centralblatt für Klinische Medicine, 1885.

[2] Cornil Journal des Connaissances Médicales Pratiques et de Pharmacologie, 1886.

[3] Nélaton - Bulletin Médical, 1890.

[4] Galliard: Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, 1890.

[5] Sevestre: Semaine Médicale, 1890.

[6] Von Brunn: Beiträge zur Klinischen Chirurgie, 1903, 39.

[7] Jensen Archiv für Klinische Chirurgie, 1903, 70.

[8] Matthews - American Journal of the Medical Sciences, 1897, 113.

[9] Bryant: Brit. Med. Jour., vol. ii, 1901.

[10] Quervain - Centralblatt für Schweizer Ärzte, 1902.

[11] Ghon: Wiener Klinische Wochenschrift, 1904.

[12] Panzacchi La Riforma Medica, 1904.

[13] Brun - La Presse Médicale, 1901.

[14] Powell: Brit. Med. Jour., vol. i., 1905.

[15] Taylor Transactions of the Clinical Society of London, vol. xxxvii.

[16] Waldo: Brit. Med. Jour., vol. i., 1904.

After spontaneous evacuation a cure may result, but more commonly there is some retention of pus and the abscess has to be thoroughly opened and drained. Von Brunn emphasises the diagnostic significance of spontaneous fistula formation at the umbilicus: "It is so frequently an occurrence in pneumococcal peritonitis as to be one of the most characteristic features. If, after symptoms of an acute peritonitis in a child, a discharge of pus occurs from the umbilicus, pneumococcal peritonitis must be thought of first of all." With regard to the other signs and symptoms during this phase the temperature is usually low, œdema of the legs may occur, while vomiting and diarrhœa are absent; there may be signs of pressure, especially on the pelvic viscera. Von Brunn states that in his first case interference was decided against on the surgical side on account of the absence of fever. Our 91 collected cases include 26 cases of the primary circumscribed variety.

Passing on to secondary circumscribed pneumococcic peritonitis, it may be said that the signs and symptoms vary in their intensity and diagnostic clearness, according as the peritonitis sets in immediately after the onset of the primary manifestation or some days later. Among our 91 collected cases there are 11 cases belonging to this class. Of these 11 the first stage was unrecognisable in no less that seven (64 per cent.) owing to the peritonitis setting in very shortly after the onset of the primary affection which in six of the seven cases was either pneumonia or broncho-pneumonia, and in the seventh case an arthritis. In another case the first stage was also missed, although the primary affection was apparently less severe, being a peri-articular abscess followed by the involvement of the joint. It may be pointed out, however, that to speak of the primary lesion being less severe may not be quite accurate, since in some of the cases at least the primary affection may be merely the first local manifestation of what is in truth a pneumococcal septicæmia This general infection may in its severity be quite sufficient to mask to a greater or lesser extent the symptoms of the onset of the peritonitis. Of the remaining three cases (27 per cent.), in one the primary affection was pleurisy unaccompanied by pneumonia, the onset of peritonitis being well marked with pain, vomiting, and diarrhœa; in the other two there were broncho-pneumonia and pneumonia respectively as the primary lesions. An interval of some days elapsed and was followed by all the signs of an acute peritonitis. It follows from this masking of the acute symptoms that the majority of these cases were only recognised during the second or third stages which are the same as in the primary form and require no further mention.

Primary diffuse pneumococcic peritonitis is characterised by the acuteness of the onset, the severity of the symptoms, the rapid prostration of the patient, and in most instances his early death. In most of the cases reported its severity and early fatal result make it comparable with a perforative peritonitis. As mentioned above, the symptoms are those of the first or acute stage of the encapsuled variety but differ in their great virulence and persistence until the patient's death if no attempt be made to relieve the condition by laparotomy. Intense pain, vomiting, and diarrhœa set in suddenly, rapidly prostrating the patient, so that he speedily acquires the abdominal facies, with dry tongue, sordes, delirium, cold extremities, and cyanosis. The temperature varies between 100° and 102° F. and the pulse between 140 and 160. If no relief be afforded death soon follows. Of the 91 cases which we have collected 21 were of this primary diffuse form, including Nos. 4 and 16 of our cases.

Secondary diffuse pneumococcic peritonitis was present in 19 out of our 91 cases. Jensen, on the other hand, only found it once in 58 cases. Of these 19 cases the signs and symptoms pointed so strongly to the presence of peritonitis in five that an operation was performed. Of the remaining 14 in four there was strong evidence of the presence of peritonitis but as no operation was performed it must be allowed that the evidence was not sufficiently strong to warrant surgical interference. In three there were signs or symptoms pointing to abdominal infection but these were not sufficient to permit a diagnosis of peritonitis. In two there was no evidence of peritonitis before death, whilst in five either there is no clinical history supplied (2) or no reference has been made to the condition of the abdomen (3).

From this abstract of the 19 cases it will be noted that, as might be expected, when the secondary peritonitis is of the diffuse variety it gives definite early signs of its presence in a much greater proportion of cases than when it is localised—namely, in nine of the 19 cases (47 per cent). As further bearing on this matter it may be noted that amongst the 19 cases pericarditis was present five times, never as the only other local infection, but always in association with pneumonia, broncho-pneumonia, or empyema It may be said, in fact, that the presence of pericarditis is a sign of a severe general infection (septicæmia) and is associated with the most grave symptoms. Hence it is worthy of note that in the five cases where pericarditis was present at the post-mortem examination no mention is made of signs or symptoms pointing to peritonitis save distension of the abdomen in one case; indeed, in three of the cases it is definitely stated that no clinical evidence of peritonitis was forthcoming. We consider that this evidence corroborates the view that in the severe septicæmic type of case the local manifestations are obscured to such an extent as to prevent their recognition clinically. When peritonitis has been diagnosed the symptoms have been for the most part the same as those of the primary form, acute abdominal pain, sickness, diarrhœa, and abdominal distension. The antecedent lesion in these cases was single in ten and multiple in nine. In addition to four cases in which pleurisy or empyema occurred as the only lesion found post mortem accompanying the peritonitis the latter was also present in conjunction with other local lesions in eight cases and was nearly three times as frequent as any other local primary manifestation.

Pathological anatomy.—Jensen epitomises the action of the pneumococcus by saying "it is pus-forming and fibrinogenous." Our own experience is all in favour of this statement and a reference to the conditions found at the post-mortem examinations in our own cases will bear this out The pus, provided that no post-mortem infection from the intestine with bacillus coli has occurred, is odourless. Its fibrinous character is shown by the layer of lymph on the wall of the cavity and by the presence of jelly-like masses in the pus, this last appearance being due to an intimate mixture of the purulent and fibrinous elements of the exudate. The fibrinous layer covering the surface may appear simply as a layer of lymph, dull and whitish-grey, or, by the presence of pus in and between its layers, it may assume the form of a yellowish or greenish yellow gelatinous membrane which may usually be peeled away from the lining wall of the cavity. Sometimes it may be hæmorrhagic in character. Similarly, the main collection of pus, which is thick and yellow, or greenish yellow, may have floating in it the jelly-like masses mentioned, or flakes of lymph or hæmorrhagic masses, the last being due to the presence of blood between layers of fibrin. The above is the typical picture but in exceptional cases misleading characters may be found. In cases where the post-mortem examination has been deferred for more than 24 hours the exudate may be evil smelling owing to post-mortem contamination. This was so in Case No 4, reported below. In another case "the abdomen was full of thin, yellowish-brown pus which poured out as soon as it was opened" (Case 3). In both these cases, however, there was a very pronounced fibrinous element, and so constant is this character, so much a part of the action of the pneumococcus in a serous cavity, that Jensen has stated that the diagnosis can always be made on macroscopical examination of the pus.

The conditions found in the abdomen vary according as the peritonitis is diffuse or encapsuled. We can only speak from experience of the diffuse variety but give a synopsis of the accounts of other observers of the encapsuled variety. The local pneumococcic peritonitis of children, "the abdominal empyema" of Lennander, is usually subumbilical and rather more to one side than the other. Its limitations depend upon the early deposit of lymph shutting off the main part of the cavity of the abdomen. There may be more than one abscess. In a case given by Gailliard[23] one abscess lay between the liver and diaphragm and another one was situated around the spleen. Again, in Sevestre's[24] case one abscess was localised to the true pelvis and another to the cæcal region. If very large the abscess may fill the whole abdomen. In the first case given by von Brunn in his paper a large abscess had been opened, the pus pouring out under great pressure. He goes on to say, "the whole abdomen formed a huge abscess cavity in which the bowels, rolled into a little ball, lay almost like a foreign body. Liver, stomach, transverse colon, omentum, and coils of small intestine were all stuck together and lay in a mass as large as a man's head on the middle of the vertebral column." This is an extreme case. The serous membrane in these cases is injected, dulled, thickened, and covered to a varying extent with fibrin. Jensen believes that the encapsuled abscess begins as a diffuse peritonitis and its localisation depends upon early limitation by fibrinous exudate. Diffuse pneumococcic peritonitis was found post mortem in all our cases. A reference to Case 2 will supply the reader with a very good idea of the condition found in this variety. The condition of the serous surface varies with the length of time the abdomen has been infected. Exudation is usually rapid and deposit of fibrin takes place early. Although speaking from a very limited experience we believe that pronounced injection of the serous membrane does not take place early.

Passing on to the condition of the viscera we note that in none of our cases was any macroscopic lesion of the stomach or bowel found. The intestines, including the appendix, were carefully examined in all but with a completely negative result. In two cases some enlargement of Peyer's patches was found. In each a single Peyer's patch was removed and a portion of the spleen at the same time. These were microscopically examined for organisms. One proved entirely negative but in the other Gram-positive diplococci morphologically identical with the pneumococcus were found both in the Peyer's patch and in the spleen. It must be clearly noted that in this case there was no trace of ulceration, the mucous membrane was not notably injected, and the organisms which we look upon as pneumococci were not found deeper than the mucous membrane of the Peyer's patch.

On leaving this division of the subject a few lines may be written upon the bacteriology of the cases we report. In two of our cases (Nos. 1 and 3) we relied upon the presence of Gram-positive diplococci, either alone or in chains, scattered in large numbers throughout the pus, this diplococcus being morphologically identical with the pneumococcus. In one of these cases the pneumococcus had already been grown from pus taken from the pleural cavity (Case 1). In another case (Case 2) we added to the evidence supplied by the examination of the pus the further proof mentioned above—namely, the presence of pneumococci in the spleen and a Peyer's patch. In Case 4 we cultivated from the blood, growing a Gram-positive diplococcus morphologically identical with the pneumococcus. Dr. J. W. H. Eyre, bacteriologist to Guy's Hospital, kindly examined this culture for us and stated that it gave a typical growth on blood agar but that inoculation into a rabbit did not kill the animal. Of our other cases quoted at the end of this paper, in seven the proof was either the presence of the pneumococcus in cultures from the blood or its presence in the peritoneal pus. In the other five the evidence is indirect, pneumococci being found in pus from an empyema or pyopericardium, and as macroscopically the peritoneal pus was similar in nature the conclusion was drawn that the same organism was the cause of the abdominal pus.

Diagnosis.—Michaut[25] has stated that whereas the diagnosis has frequently been made in the encysted form it has only once been made in the diffuse form. This statement is set down as an appropriate introduction to the discussion of diagnosis, since in most cases encysted peritonitis can be diagnosed, whilst the diffuse may, and probably in the majority of cases will continue to be, extremely difficult if not impossible to diagnose correctly. The importance of the history is very great in many of these cases. This may be of the greatest diagnostic value, or its true meaning may only be recognised after the event. Experience has shown how obscure pneumonia may be in some cases, much more so a tonsillitis or conjunctivitis due to the pneumococcus. We recently saw a case of fever lasting over a week and falling by crisis, in which all the pulmonary signs recognised by skilled observers pointed to diffuse bronchitis only. Typhoid fever was thought of, but Widal's reaction proved negative. After the fall of temperature the patient expectorated a muco-pus which was examined for tubercle bacilli; these were absent but numerous bacilli and diplococci were present. The diplococci were Gram-positive and morphologically identical with the pneumococcus and we are of the opinion that what might have been a very obscure case but for this examination was a case of central pneumonia giving practically no physical signs of consolidation. This case occurred in an adult, but similar cases occur more frequently in children and we are inclined to look upon "cough and fever" preceding pneumococcic peritonitis as being highly suggestive of a previous pulmonary infection. In this connexion we may call attention to the second of our own cases where the boy had an abscess about the hip. This abscess was opened but unfortunately no bacteriological examination made of the pus. Looking back now on the case we consider that this inter-muscular abscess was the primary lesion and would emphasise the importance of a bacteriological examination in such cases. At a later date a baby was admitted into the Children's Hospital at Shadwell with several superficial abscesses which were opened. An examination of the pus showed the presence of pneumococci and we therefore drew off a sample of the blood from the median basilic vein and on blood serum pneumococci grew in pure culture. We would lay special stress on history in these cases and as being especially valuable when forthcoming in a case of acute peritonitis setting in suddenly and in an apparently previously healthy child. When the difficulty of diagnosis is considered and the heavy mortality necessarily resulting, no clue, however slight, can be disregarded.

The localised form of peritonitis will, as Michaut says, be diagnosed, since sooner or later an abdominal abscess will form, but unless the history of the acute attack or, in some cases, of a preceding pneumococcic affection elsewhere is obtained the diagnosis of the abscess may not be made until it is on the point of bursting at the umbilicus. This is unsatisfactory, for it means that the child has been subjected to a continued infection for a long period, at times up to a month and in many cases is in a weak and emaciated condition before the surgeon operates. The diagnosis should be made, if possible, and the condition relieved during the acute stage or during the early part of the quiescent period. The cardinal symptoms to rely upon are the acute onset of the vomiting and diarrhœa and abdominal pain, associated with a sudden rise of temperature. Herpes labialis appears to be so uncommon that its absence is quite unimportant, but it has occurred in a few cases. This local form of the disease has to be diagnosed from other forms of peritonitis, including that following appendicitis, from typhoid fever, and in its second and third stages, from tuberculous peritonitis.

From other forms of peritonitis which, save for that arising primarily from the appendix, are uncommon there will be great difficulty in diagnosis in the absence of any history. The same may be said with regard to the diagnosis from appendicitis, since the pain is chiefly in the right iliac fossa in many of these cases, while in many cases of appendicitis, especially in the early stages, the pain is not localised. Further, in very young children knowledge as to the situation of the pain is often unobtainable. In many such cases operation will be withheld and expectant treatment adopted. It is of importance that in such cases the second period should not be missed but the abscess formation treated as soon as recognisable. From typhoid fever the diagnosis may prove difficult if diarrhœa persists after the vomiting has ceased and the temperature remains raised. The absence of the rash and of splenic enlargement, the presence of a leucocytosis as opposed to a leucopenia, and the fact that a Widal examination proves negative, are all points against the illness being typhoid fever. There can be no doubt that in the many cases of encysted pneumococcal pus have been looked upon as cases of tuberculous peritonitis. It is somewhat remarkable that on looking through the reports of cases at the East London Hospital for Children for the last ten years not a single case of intraperitoneal abscess due to the pneumococcus, operated upon and cured, has been recorded as such. We are of the opinion that such cases must have been treated but, the pus being looked upon as tuberculous, no bacteriological examination was made. There can be little doubt that in the later stages, when the child is very emaciated, the appearance is almost typical of tuberculous peritonitis. As points in diagnosis von Brunn calls attention to the importance of a history of the acute stage and the fact that in tuberculous peritonitis masses can be felt which are absent in the pneumococcal form. In the chronic stages he says only puncture can decide the question.

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[23] Loc. cit.

[24] Loc. cit.

[25] Loc. cit.

The diffuse form of pneumococcal peritonitis has to be diagnosed from a severe and acute attack of typhoid fever and from peritonitis following perforation of a viscus. The same emphasis may be laid on the importance of history in this form as in the local, but with the primary form there is little doubt but that in most cases the diagnosis will be next to impossible. We have no statistics at hand with regard to the relative frequency of acute diffuse peritonitis due to the pneumococcus and that due to perforations of the bowel. Such figures will no doubt be supplied in the future and prove valuable. For the present we can only say that as the commonest causes of acute perforative peritonitis in children appear to be perforation of the appendix and typhoid and tuberculous ulcerations of the bowel, in the absence of any history one of these conditions will still be diagnosed, but that if the peritonitis is recognised and an operation follow the character of the pus should lead to a diagnosis in most cases at once. Jensen in his paper states that of 16 cases of operation on the diffuse form eight were operated on for appendicitis.

Prognosis.—It appears to us on looking through the collected cases that prognosis depends on three factors: (1) whether the peritonitis is local or diffuse; (2) whether an operation is or is not performed and, if performed, whether or not at a suitable time; and (3) the previous presence or the onset of a severe complication. Whether the peritonitis is primary or secondary, providing there is no other complication, does not appear to affect the prognosis to any material extent according to our table. The following is the table which speaks for itself:—

Variety of peritonitis.		Number of cases.	Number of cases operated on.	Number of cases not operated on.	Result.		
					Recovery.	Death.	Uncertain.
Primary local		26	26	0	22	3	1
Secondary local ...		11	10	1	9	1	1
Primary diffuse ...		21	10	11	2	19	0
Secondary diffuse ...		19	5	14	3	16	0
Origin uncertain	local ...	8	8	0	6	2	0
	diffuse ...	6	3	3	1	5	0
Total		91	62	29	43	46	2

45 of the 91 cases had encysted peritonitis, of which 44 were operated on, and of these 37 recovered and six died; in two the result is uncertain. The other 46 cases were of the diffuse variety, of which 18 underwent operation. Of the 18 cases operated on six, or 33·3 per cent., recovered, whereas all those not operated on died. The one case of the local variety not operated on recovered by spontaneous evacuation of the pus. The above table shows that recovery occurred in 86 per cent. of those with the encysted form, whilst only 14 per cent. of the cases with the diffuse variety survived.

Treatment.—In dealing with treatment we shall be very brief, simply giving the conclusions arrived at by a study of the cases reported and a consideration of the pathological condition found at post-mortem examinations. There can be no doubt but that when once pneumococcal peritonitis has been diagnosed a laparotomy should be performed. Jensen says, "Operate before a distinct abscess has formed," but acknowledges that the early stages may be very difficult to diagnose. Remembering, however, that there is an acute stage in localised pneumococcal peritonitis in which the indications for operation may not be strong enough to lead to immediate intervention, it may be hoped that in the future such cases may be watched and the persistence of fever, of some abdominal tenderness, and perhaps diarrhœa, may lead to an earlier diagnosis of the condition and earlier operation. At operation the cause of the peritonitis may, in the great majority of cases, be recognised by the character of the pus, non-odorous, greenish, and fibrinous. It is sufficient in the localised form to treat the abscess in the simplest way, inserting a large drain and allowing it to heal from the bottom. With the largest of abscesses there is no trouble. In the acute diffuse form the abdomen will be opened in many cases for peritonitis of unknown cause. The character of the pus should make the diagnosis clear. It is as yet impossible to advise any exact line of treatment but, if the pus is not evil-smelling, mopping out the cavity and closing it without drainage would appear to be the wisest course. In the event of the pus being foul-smelling from infection with bacillus coli the perforation of some viscus would suggest itself and this would resolve the treatment into that special to perforative peritonitis.

Summary.—1. Pneumococcic peritonitis is a comparatively rare disease in children but in the past many cases have not been recognised. 2. It is in about a third of the cases secondary to some remote pneumococcal lesion; of these affections of the lungs and pleuræ are by far the commonest, the middle ear being the next most common site. The infection is carried to the peritoneum in the blood stream. 3. In the remaining two-thirds the peritoneum is probably infected from the bowel in the vast majority. No microscopic lesion is, as a rule, found. 4. In half the cases the pus is encysted; in these the diagnosis is fairly easy, the prognosis is good, and the treatment is laparotomy and drainage. 5. In the other half of the cases the peritonitis is diffuse, the diagnosis is very difficult, and the prognosis very gloomy. The treatment is laparotomy. 6. The pathological appearances are characteristic.

The cases which we personally observed and for permission to publish which we are indebted to the medical and surgical staff of the East London Hospital for Children were as follows:—

CASE 1.—A boy, aged four years, was brought to the hospital in March, 1905, with the history that seven weeks before he had had tonsillitis, followed by pneumonia. This got better after 14 days, but on the sixteenth day he had a relapse. He had since been getting worse and latterly had had some pain in the chest and abdomen. The boy on admission was pale and thin and had great dyspnœa. The left chest was obviously full of fluid and a piece of rib was resected, a pint of pus, creamy and odourless, escaping. Great improvement in the boy's condition followed the operation. During the next week the temperature was irregular, occasionally reaching 101° F. at night. On the ninth day after admission he was worse and suddenly became very collapsed, but revived on receiving stimulants. On the eleventh day he had two similar attacks. There were slight impairment of resonance and deficient breath sounds at the right base and the general condition was worse. During all this time the empyema which had been opened was draining well. On the thirteenth day the breath sounds at the right base were stronger and the general condition was unchanged. On the fifteenth day the patient looked much worse. The right limit of cardiac dulness, which had been extended to the right by the fluid in the left chest and had never recovered its normal position, was two inches from the right edge of the sternum and there were marked dulness and resistance at the right base behind. The question arose as to whether there was a right-sided empyema or a purulent pericarditis. The child died before the arrival of the visiting physician.

At the necropsy the right pleural cavity was found to be obliterated, save for a small pocket behind and at the base which contained from one to two ounces of thick greenish pus. The left empyema had been drained perfectly. There were firm adhesions between the pleural and pericardial surfaces. Pyopericarditis was present, with a thick layer of lymph on both visceral and parietal surfaces. The mitral valve showed old endocarditis. There was myocardial degeneration. On opening the abdomen general diffuse peritonitis was found. There was a pocket of pus between the liver and the diaphragm, just to the right of the coronary ligament. The other organs were normal. Films of the pus from the abdomen showed diplococci morphologically identical with the pneumococcus. The pus from the empyema grown on blood serum gave a Gram-positive diplococcus indistinguishable from the pneumococcus.

CASE 2.—A boy, one year and five months old, had a swelling over the left trochanter which the mother had noticed four days before. On examination the child was found to be a small wasted infant; the temperature was 101·6° F., the pulse was 156, and the respiration was 40. There were no physical signs in the chest. There was a large fluctuating swelling of the size of a man's fist over the left trochanter; the skin over it was reddened. Next day the abscess was opened and the pus evacuated. No communication with the hip-joint could be found. Three days later, as the temperature had not fallen at all (it was then 104°),:the abscess cavity was explored under an anæsthetic and one or two small loculi were opened up. These ramifications of the abscess cavity penetrated the intermuscular planes of the buttock in all directions. Counter incisions were freely made. That evening the infant began to vomit and diarrhœa set in. Next day the vomiting and diarrhœa continued; no cause could be found and the child died on the following morning.

At the necropsy the lungs were tough and fibroid, possibly the late results of a pneumonia. At the lower and posterior part of the right pleural cavity there was a trace of pus between the pleural layers which were coated with lymph. The left chest, the heart, and the pericardium were normal. The abdomen was the seat of a diffuse peritonitis. The pus was thick, greenish in colour, and very rich in fibrin. The peritonitis seemed to be most pronounced around the cæcum and the ascending and descending colon. A small shut-off collection of pus was situated between the ascending colon and the cæcum on the outer side and the spine on the inner side, the mesentery and the small intestine bounding it in front. There was lymph on the under surface of the diaphragm. The intestines were normal, as were the liver, the spleen, and the kidneys. There was slight enlargement of the mesenteric glands. The abscess in the left hip was extra-articular and unconnected with bone. No diseased bone could be found. Films of pus from the peritoneum yielded a Gram-positive diplococcus morphologically identical with the pneumococcus. The same organism was found in sections of the spleen stained by Gram's stain and Bismarck brown and in the mucous membrane of a Peyer's patch, of which sections were made.

CASE 3.—A male infant, one month old, was brought to the hospital with the history that three days before he had suddenly been seized with sickness. Previously he had been healthy and had been fed on the breast only. The first day of his illness he had vomited three times and diarrhœa set in on the next day. On the morning of his admission patches of redness were seen all over the body. The child was very wasted, erythematous macules and papules covered the body, the abdomen was greatly distended, and large veins were coursing over the surface. The skin was dusky. There were severe vomiting and diarrhœa. The temperature was 100° F. on admission. The child died in three hours, the temperature having risen to 103°.

The necropsy showed congestion of the lungs; otherwise the thorax was normal, as were the brain and ears. The abdomen was full of thin, yellowish brown pus, and in places there were quantities of semi-solid, greenish, jelly-like pus. Peyer's patches were a little swollen but there was no ulceration of the bowel. The liver was somewhat fatty but the other organs were normal. Pus from the peritoneum stained by Gram's stain and counter-stained by Bismarck brown showed numerous Gram-positive diplococci morphologically identical with the pneumococcus.

CASE 4.—A girl, aged five years, had had nausea and pain round the umbilicus ten days before admission, with difficulty in micturition, but no scantiness of urine. She had previously been quite well and had never had scarlet fever. There had been a little vomiting for two days. Seven days before admission the feet and legs began to swell and the swelling had been since increasing and spreading upwards. The bowels had been constipated. On the morning of admission redness of the legs and thighs was noticed. On admission at midnight she was seen to be a well nourished girl. The face was pale, not puffy, and there was no appearance of facies abdominalis to be noted. The mucous membranes were of good colour but the tongue was very foul. The patient complained of severe pain all over the abdomen. There was great œdema of both legs, of a slightly solid character, which extended upwards in the abdominal wall rather more on the left side than on the right. The skin over the lower part of the abdomen and the thighs was red in patches. The temperature was 102° F. and the pulse was 145, not running. There were no physical signs in the chest. The abdomen was considerably distended and moved fairly well with respiration in the upper part and a little in the lower part. There was much general tenderness but the appendix region could be easily palpated and no thickening was felt. There were no dulness in the flanks and no signs of fluid. A catheter was passed and a small amount of urine was drawn off which was loaded with albumin. Nothing abnormal was felt on rectal examination. On the next morning the patient was more comfortable. The physical signs remained the same, save that now the red area comprised a circle of about eight inches diameter, with the vulva, which was a little excoriated, at the centre. The edge of the patch was definite but was not raised. The temperature was 100° and there had been no sickness. The bowels had not been opened. Calomel and salines were ordered. Milk was taken well. Later, ten grains of compound powder of scammony were ordered. During the same night the patient suddenly collapsed and died.

At the necropsy the chest was normal save for congestion of the lungs. The abdomen contained about a pint of evil-smelling fluid just becoming turbid and a small quantity of flaky yellow lymph in the left side of the pelvis. There was general peritonitis and no localised collections of pus could be made out. The genitalia and the appendix were normal. There was congestion of the intestines but no ulceration. Peyer's patches were a little enlarged. The spleen and liver were normal. The kidneys were a little enlarged. The cortex was injected and showed fatty change. The capsule stripped readily and the stellate veins were congested. The vena cava was normal. The brain was not examined (by request). Sections were cut and examined microscopically of the spleen, the kidneys, and a Peyer's patch. The kidneys were in a state of early tubal nephritis. No organisms were seen in the sections nor in those of the spleen and Peyer's patch. Films of the pus (from the yellow flaky lymph) stained by Gram's method yielded a Gram-positive capsulated diplococcus morphologically identical with the pneumococcus. The blood in the femoral vein when cultivated gave the same organism.

A search through the records of the hospital was made in order to see what other cases of the disease had been met with and resulted in the discovery of 12 cases which are briefly summarised as follows.

CASE 5.—The patient was a male, aged 15 months. He had had cough and diarrhœa for some days. He died shortly after admission. At the necropsy broncho-pneumonia was found throughout both lungs, also propericarditis, thick lymph on the upper and lower surfaces of the right lobe of the liver, meningitis, and double otitis media. Pneumococci were found pure in films from the brain and the pericardium and in films from the peritoneum pneumococci and bacillus coli communis (necropsy 52 hours after death). In films from the lungs there were pneumococci and other organisms.

CASE 6.—This patient was a female, aged 23 months, who had been vomiting for four days. She was admitted for severe broncho-pneumonia, of which the signs were typical. The abdomen was prominent, distended, and resistant. There was constant vomiting. The patient died a few days later, the signs being unchanged. At the necropsy both the pleural cavities contained lymph, less than one ounce of fluid being present; the pericardium was normal and the liver and spleen were coated with lymph. There were general suppurative peritonitis and caries of the right petrous bone (there had been no aural discharge while in hospital). The brain was hyperæmic but there was no meningitis. In films from the ear and the peritoneum chains of strepto-diplococci, morphologically identical with the pneumococcus, were found.

CASE 7.—The patient was a male, aged five months. He had a sudden onset of screaming and fits. There was no diarrhœa or vomiting. He had flatulence and great abdominal distension. On admission there were râles at both bases; there was an impaired note at the right base. Cardiac dulness was increased; the sounds were pure. There was no marked tenderness of the abdomen and no tumour could be felt. The head was retracted and rigid. The patient died in 24 hours. At the necropsy there were small diaphragmatic empyemata at both bases, also propericarditis; the spleen was coated with lymph and there was a little turbid sero-pus in the pouch of Douglas. There was suppuration in the right middle ear, also suppurative meningitis. The pericardial pus showed pneumococci and a few staphylococci on film preparations.

CASE 8.—The patient was a male, aged 20 months. He was admitted with signs of left empyema. This was evacuated. Six days later sickness began; there was no diarrhœa. Sudden death occurred ten days after operation. At the necropsy there were some adhesions in the left pleural cavity and some lymph; the right was healthy. The pericardium was normal. In the peritoneum there were four ounces of pus and thick yellow sediment in the pouch of Douglas, lymph thickly coating the liver and the spleen; there were no adhesions between the coils of intestine. The ears were normal, also the meninges. Pneumococci were present pure in the pus from the empyema.

CASE 9.—The patient was a female, aged three years and nine months. There had been a gradual onset for 14 days. She had headache, drowsiness, and anorexia, and five days before admission she became worse, with severe pain in the abdomen. Next day she had diarrhœa and vomiting, the former for one day, and the latter had continued since. She had constipation on admission. She looked very ill, had facies abdominalis, and the knees were drawn up. There were fine rhonchi in both lungs. The heart was normal. The abdomen was very distended, there was no marked tenderness; it was very rigid, especially on the left side, and resonant all over. There were severe diarrhœa and vomiting. On the next day the patient was weaker and there was less distension. On the following day the distension practically disappeared, diarrhœa was severe, the patient was very restless, and death ensued. At the necropsy there was double empyema, three ounces of pus in all, propericarditis, general purulent peritonitis, thick lymph on the upper surface of the right lobe of the liver, the under surface of the left lobe, the upper and outer surfaces of the spleen, the under surface of the stomach, and the intestinal folds. Films of the pleural, pericardial, and peritoneal pus showed pure pneumococci.

CASE 10.—The patient was a female, aged four years and eight months. She had had whooping cough five months before; one month before she had had pain in the chest, dyspnœa, and wasting. On admission there were signs in the right lung which led to operation for empyema 14 days later. The abdomen was normal and the spleen was palpable. 15 days after admission the abdomen became slightly swollen and tender. The child did not improve and died a few days later. At the necropsy in the right pleura was an old empyema cavity; the lower lobe of the right lung showed croupous pneumonia. With regard to the left pleura there was semi-solid greenish lymph from the base to the apex. There was propericarditis (greenish pus). In the abdomen there were two ounces of turbid fluid, with flakes of lymph in places, for the most part round the liver. There was some œdema of the meninges. Cultures of the heart's blood yielded pure pneumococci.

CASE 11.—The patient was a male, aged 21 months. He had been feverish for nine days. Six days ago he vomited and had cough and delirium and cried before micturition. On admission he had cyanosis and was very ill. There were signs of fluid at the left base. Two ounces of turbid fluid were aspirated. Three days later ten ounces were withdrawn, followed by death on the next day. At the necropsy, in the left pleura there was greenish lymph and croupous pneumonia at the lower lobe of the left lung. In the right pleura there were turbid fluid and general coating of lymph. Propericarditis was present. There was recent lymph and roughening of the peritoneal covering of the spleen. The remainder of the peritoneum was normal. Films of the pericardial and left pleural fluids showed pure pneumococci.

CASE 12.—The patient was a male, aged 20 months. Ten weeks ago he had had broncho-pneumonia. Since then he had been wasting, had anæmia, and a cough. He was admitted with signs of right-sided empyema which was operated on and two and a half ounces of pus were withdrawn. 11 days later he had broncho-pneumonia at the right apex and two days later death ensued. At the necropsy he had broncho-pneumonia in the right lung, the empyema cavity draining well. There was broncho-pneumonia in the left lung. The pericardium and meninges were normal. In the abdomen there was half a pint of green oily pus, there were no adhesions or roughening of the peritoneum. The films of pus from the empyema showed pneumococci alone.

CASE 13.—The patient was a male, aged four weeks. The umbilical cord dropped off on the twelfth day; for a few days there was a slight discharge. On the eighteenth day there were vomiting and diarrhœa with green stools, and swelling of the abdomen. He had since vomited often, but the diarrhœa was less marked. On the twenty-sixth day swelling of the abdomen was more marked; the patient seemed in great pain and the urine was scanty. Discharge from the navel began again on the day of admission (the twenty-eighth). On admission the patient was found to be small and thin; there was no abdominal facies, the pulse was good, and there was no œdema. The abdomen was very distended, tense, reddish blue, and the veins were distended; there was a yellow discharge from the umbilicus. No tumour was felt; there was a fluid thrill. The umbilicus was protuberant. The whole of the right side of the abdomen was dull, save just above the pubes, and dulness extended one inch to the left of the middle line and was not moveable. The chest was normal. Under an anæsthetic five hours later the abdomen was resonant all over. At the operation a "cyst" presented in the wound covered with thickened peritoneum, which was incised; a large quantity of pus escaped. Death occurred on the next day. At the necropsy in the right pleura were blood-stained fluid and shreds of lymph; there was no pneumonia in the right lung; the diaphragm was markedly œdematous. The left pleura was normal. The intestines were matted together and pressed against the spine. There were an empty potential cavity in front, little lymph, and pus in the splenic region and between the stomach and the colon—pale yellow. The umbilical vein was normal. Films of the pus showed pneumococci only.

CASE 14.—The patient was a female, aged eight years. She had had a cough for one month, with two days of vomiting, some delirium, and pain in the left side and fever. She had been worse for a week. On admission she was thin, blue, very ill, and had rapid respirations and clubbed fingers. The left chest was obviously full of fluid. The abdomen was distended and tender. Operation was performed for empyema and a pint of pus was evacuated. Diarrhœa and vomiting occurred during the next five days; on the sixth day there were distension and tenderness of the abdomen, which increased rapidly. There was constant vomiting, the face became abdominal in expression, and death followed on the twelfth day. At the necropsy there was an old empyema in the left pleural cavity; there was no pneumonia on the left side. In the right pleura was an empyema, with three ounces of greenish pus. There were general peritonitis and coils of bowel loosely adherent, covered with recent green lymph. On the under surface of the diaphragm on the left side was a thick layer of drier lymph. Film preparations of the peritoneal fluid showed the presence of Gram-positive diplococci along with other organisms.

CASE 15.—The patient was a male aged seven weeks. For two days before admission he had been restless and irritable. The day before the abdominal wall was noticed to be red. There had been no vomiting On admission there was jaundice and the patient had a dull and earthy expression. The abdomen was prominent and œdematous in its lower half; the skin was red and glazed. There was free fluid in the abdomen. The spleen extended down to the umbilicus; a friction rub was heard over it. The liver was two fingers' breadth below the ribs The abdomen was tender. The infant vomited twice and died within 24 hours. At the necropsy the chest was found to be normal, also the ears and the brain. There were six ounces of green turbid fluid in the abdomen, and lymph in the pelvis and over the organs. The liver was large, firm, jaundiced, and light green in colour. There was recent lymph on the spleen The appendix was normal. Films and cultures from the pus yielded pure growth of pneumococci.

CASE 16.—The patient was a male, aged four and a half years. For three months he had had a puffy face. Five days before admission he had general œdema, pain in the abdomen, and constant vomiting. On admission he had cyanosis, great œdema, but no signs in the chest. The abdomen was distended and there was free fluid. On the next day there were impairment of the note at the left base and pain and tenderness in the abdomen; two days later death occurred after repeated vomiting. At the necropsy each pleural cavity contained about four ounces of thin pus. There was no pneumonia. In the abdomen there were 10 ounces of thin pus and there was lymph round the spleen. The kidneys were greatly enlarged and pale, the stellate veins were engorged, and the cortex was diminished. Films and cultures from the peritoneum gave pure growth of pneumococci.

ACHONDROPLASIA: ITS OCCURRENCE IN MAN AND IN ANIMALS.

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THE disease which in this country is usually distinguished by the name of "achondroplasia" has many other synonyms. Although this title, which was originally bestowed by Parrot, is not a perfect one it is commonly used, as it is shorter than some and more correct than others. An objection to it has been raised because it suggests that there is no growth of cartilage cells at all, and this is obviously a mistake, as there is plenty of cartilaginous activity but not in the direction of increasing the length of the limb bones. Kaufmann (1892) therefore suggested the term "chondrodystrophia fœtalis hyperplastica"; this, though more correct, is unlikely to come into general use owing to its length. Other terms, such as "fœtal rickets," "congenital rickets," and "fœtal cretinism," are now no longer employed as they suggest an entirely fallacious view of the cause of the disease.

The subjects of this condition are short and stunted in their growth but as the limb bones are chiefly affected they fall under the category of micromelic dwarfs, as distinguished from microsomic, where the growth of all the bones is arrested. Judging from the statuettes of the ancient Egyptian god Pthah, many of which can be seen in the British Museum, the disease is of very ancient origin. Some of the old Egyptian metal workers are also represented as dwarfs of this type. The figure of the god Bes (Fig. 1), although very like an achondroplasiac dwarf, is thought by some to show the appearances of a cretin. Charcot and Richer[1] have also demonstrated that several of the old masters have represented in their pictures dwarfs having the characters of the disease. Velasquez painted pygmies evidently suffering from achondroplasia in some of his paintings for the Court of Philip IV. M. Poncet and M. Leriche[2] have gone much further, however, and have suggested that achondroplasiac dwarfs represent vestiges of a race of men who lived in bygone times and have now disappeared. They regard many of the existing pygmy races as examples of atavistic return to an ancient race of dwarfs who were to be found all over the world. The Akkas and Obongos are cited as types of a "physiological, hereditary, and racial achondroplasia."

FIG. 1.

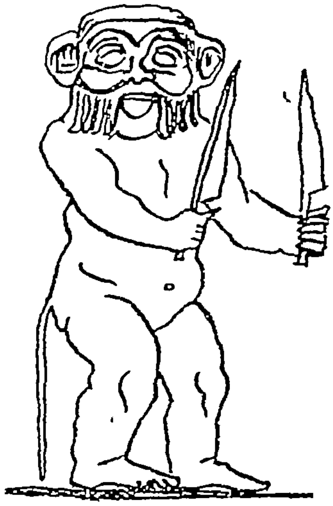

Figure of Bes.

Now, the Akkas are no doubt pygmies but are most beautifully formed and proportioned and their skeletons do not exhibit the slightest abnormality. The skull, the hands, and limb bones are all perfectly formed and do not show a trace of those changes which are pathognomonic of achondroplasia. The limb bones in particular are long and slender and not short and thick and, moreover, do not show the abnormal radio-humeral ratio. M. Poncet and M. Leriche state that these natives have a tendency to separation of the big toe from the rest of the toes and they quote this as being an approximation to the *main en trident* of achondroplasia. But in the scale of evolution the negro more nearly approaches the anthropoid apes than does the white man and the separation of the big toe is more and more marked the nearer we approach the apes and is seen in *all* negroes. Moreover, it is also seen to a certain extent in those who walk about barefooted. Although these authors give many other reasons in support of their theory they are not in the least convincing. Besides, to state that a disease (for a congenital deformity must be classed as such) is "physiological" is begging the question altogether, as a pathological state cannot be physiological.

Etiology.—The cause of achondroplasia is entirely unknown. Rickets, syphilis, and alcohol, all of which have been given as causes at various times, have not apparently anything to do with the production of the disorder. Cretinism also, is entirely distinct from it. Infants having the disease are frequently stillborn or die in early childhood, but probably many more reach maturity than was formerly thought. Thus, in the 34 cases which I have collected 18 of the subjects were over 17 years of age, seven were over 30 years, and two were over 40 years.

The disease is occasionally hereditary and it has been noticed that more than one member of a family may be affected (see Table III., cases 10 and 11, 16 and 17, 18 and 19). Porak[3] mentions the case of a woman who had the disease and gave birth to an infant similarly deformed. Boeckh[4] also published a case of a female dwarf evidently suffering from achondroplasia whose father and several other relatives had been dwarfs with similar proportions. In some cases, also, it has been found that one or both parents, although not actual examples of the disorder, are, nevertheless, of extremely small stature. Thus in Poncet and

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[1] Les Difformes et les Malades dans l'Art, Paris, 1899.

[2] Revue de Chirurgie, December, 1903

[3] De l'Achondroplasie, Clermont, 1890

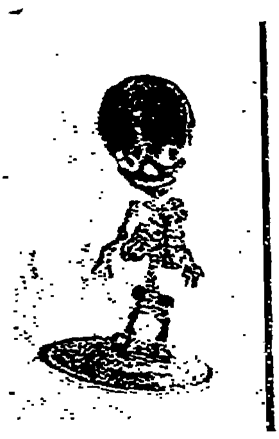
[4] Archiv für Gynækologie, Band xlii., 1893

Leriche's cases (Nos. 10 and 11) both the father and mother were only just over four feet in height. In one of my cases (Case 5) the father is only four feet eight inches in height.

Pathology.—The bones of the skeleton which are formed entirely in membrane and those in cartilage which remain altogether or mainly cartilaginous till a late period of intra-uterine life are normal. Those ossified from cartilage before birth are dwarfed. Therefore the limb bones are chiefly affected, the clavicle excepted. The cause, whatever it may be, affects the infant very early, as the changes in the skeleton occur during the first few months of intra-uterine life. By the time the child is born the disease has run its course and is no longer active, so that the abnormalities seen are only the results of a malady which is passed. The skull, as a whole, is unaffected or is larger than usual; but one constant feature of the disease is premature synostosis of the basi-occipital with the basi-sphenoid. The result of this is marked depression and flattening of the bridge of the nose. The chief anatomical changes which take place have been summed up very concisely by William Turner[5] and are as follows. 1. At the junction of the epiphysis and the diaphysis the cells are abnormal as regards their size, shape, and arrangement, and the primary bony areolæ which usually lie in the axis of the bone are absent. As a result the diaphysis does not increase in length. 2. There is an ingrowth of the periosteum between the epiphysis and the diaphysis, so that the ossification of the cartilage cells in the primary areolæ is absolutely prevented. Occasionally the epiphysis and diaphysis remain ununited. The periosteum continues to form bone along the shaft, which may be unduly thick in proportion to its length and may present irregular bosses like exostoses. Sometimes the bones are soft and bend, but this is more frequently seen in the lower than in the upper extremities. (See Fig. 2.)

Symptoms.—The appearance of the patient is at once most striking and characteristic, as the marked disproportion between the length of the trunk and that of the limbs and the large size of the head are obvious to the most casual observer. The head is large, rounded, and in shape resembles that of a person suffering from hydrocephalus; the fontanelles remain open for an abnormally long period of time and are usually very large. Craniotabes is not present. The face in relation to the skull is small; there is a marked depression of the bridge of the nose due to the premature ossification of the occipital bone with the sphenoid. Dentition is normal but the palate is, as a rule, rather more arched than usual. In some cases the mouth may be kept half open and the tongue slightly protruded, but this is by no means a constant feature. In Fig. 3 the child shows this habit and the mother, whose face does not appear in the reproduction of the photograph, manifested the same peculiarity. In contra-distinction to cretinism the intelligence is exceptionally good.

FIG. 2.

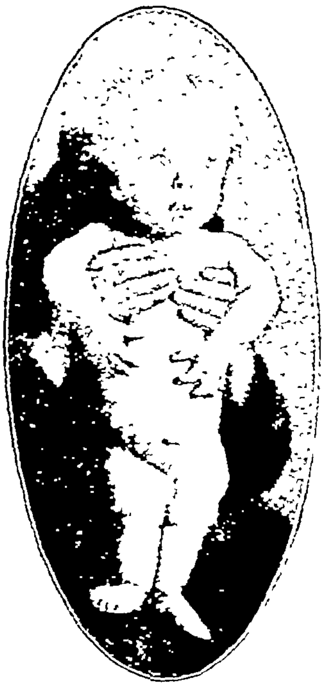


Skeleton of an achondroplasiac fœtus at term.

The trunk.—This is normal in length but the ribs are usually "beaded" anteriorly; this beading is not the same as that due to rickets. Lordosis is usually present and is due to an abnormal anterior projection of the lumbar vertebræ, as it does not disappear on placing the patient on the back and elevating the legs. Owing to the lordosis the abdomen is prominent and the buttocks project (see Fig. 4). In one of my cases, however (Case 5), lordosis was absent and a marked kyphosis, similar to that due to rickets, took its place.

The limbs—upper extremity.—The clavicle shows no abnormal change but the humerus, radius, and ulna are very short and thick and may be slightly curved; this curvature is less often seen in the upper than in the lower extremity. The elbow can seldom be extended beyond an angle of 135° and this gives the arm an appearance of being curved with the concavity inwards. Bosses of bone can occasionally be felt on the diaphyses. The epiphyses are very broad and thick; this is most marked at the lower end of the humerus.

FIG. 3.



Child, aged one year and three months (No. 5 in table), showing *main en trident*, &c.

It has been stated by many writers that the normal ratio of the length of the arm to the forearm is reversed in achondroplasia—i.e., the forearm is longer than the arm. This is so in the majority of instances but is by no means the case in all. Thus, out of 26 cases where the measurements were given the forearm was longer than the arm in only 13 instances. In four cases the arm and forearm were of the same length. As the greater number of recorded cases are those of children I thought that this "reversed ratio" might only obtain before adolescence was reached. But although the "reversed ratio" still held, yet the proportion was altered.

TABLE I.—*Showing the Proportional Length of the Forearm to the Arm in 26 Cases.*

—	Under 20 years of age.	Over 20 years of age.	Total.
The forearm longer than the arm ...	8	5	13 or 50%
The forearm shorter than the arm ...	5	4	9 or 34·6%
The forearm same length as the arm	3	1	4 or 15·3%

The hands are of a peculiar shape, being broad and short, and the fingers are short and tapering. The proximal phalanges are so much broader than the terminal ones that the finger-tips cannot be approximated. There is thus a space left between the ends of the fingers, and this space is especially marked between the middle and ring fingers, so that the index and middle fingers are directed to the radial and the ring and little fingers to the ulnar side of the hand. This is the so-called *main en trident* (see Fig. 3). An abnormal range of movement is usually present in all the joints below the wrist, so that the dorsal aspects of the fingers can be made to touch the back of the forearm with ease. The thumb and little fingers can also, as a rule, be bent so as to touch the radial and ulnar borders of the forearm respectively.

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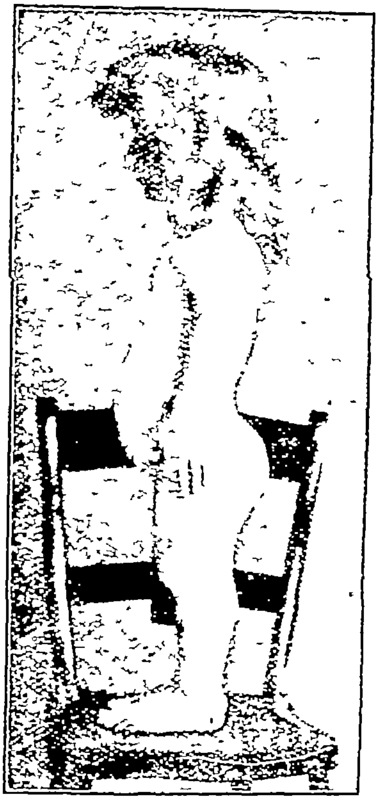
[5] Practitioner, vol. lxiii., 1899.

FIG. 4.



Child, aged six years (No 6 in table), showing lordosis, &c.

Lower extremity.—The changes are very similar to those observed in the upper extremity, the bones being very short and thick and frequently present bosses, especially in the neighbourhood of the knee-joint. As in the upper extremity, it has been stated that the leg is longer than the thigh, but on examining the figures in 23 cases I find that the reverse of this is the case.

TABLE II.—*Showing the Length of the Leg and the Thigh in 23 cases.*

—	Under 20 years of age.	Over 20 years of age	Total.
The leg shorter than the thigh ..	9	5	14 or 60·9%
The leg longer than the thigh ...	5	4	9 or 39 1%

The fibula, however, is peculiar in that in nearly all cases the upper end enters into the formation of the knee-joint. On the anterior aspect of the knee deep annular folds of the skin can frequently be seen, as if the integuments were too long for the bones. The tarsus, metatarsus, and phalanges are normal. The pelvis is small and narrow and in the event of a female achondroplasiac dwarf becoming pregnant there may be considerable difficulty and danger in parturition. The muscles are usually well developed and as the limb bones are very short the leverage obtained is enormous, so that all sorts of acrobatic feats can be performed with ease. Thus, for instance, one of my subjects (Case 6) could touch the floor with his forehead with ease whilst walking or running. He could also sit down and rise up again without bending the knees and could turn back somersaults without any difficulty whatever.

Diagnosis.—The conditions for which achondroplasia is liable to be mistaken are rickets and cretinism. But errors in diagnosis ought seldom, if ever, to be made, as the diseases present quite different symptoms.

Rickets.—In the first place, the signs of achondroplasia are present at birth, whereas those of rickets seldom appear before the end of the first year. A certain number of cases of so-called congenital rickets have been recorded, but it is exceedingly doubtful if the disease really exists. Moreover, there is no disproportion in the length of the body to the limbs in rickets, the curvatures of the bones are usually distinct, and the characteristic signs of achondroplasia—viz., the shape of the fingers, the short and broad limb bones, the depressed nose, &c —are absent.

Cretinism.—Here the disease is congenital, but although the growth of the child is stunted the limbs are not unduly shortened in relation to the length of the body. The half-open mouth allows the large size of the tongue to be seen, the hair is coarse and scanty, and the skin is rough; supraclavicular fatty pads are usually present and the absence of, or much diminished size of, the thyroid gland may be made out. Again, the signs characteristic of achondroplasia are absent. If, in spite of these differences, the diagnosis is still uncertain the effects of treatment will soon clear up any difficulty, as both rickets and cretinism are readily amenable to treatment, whilst achondroplasia is unaffected by any treatment, either medicinal or dietetic.

THE OCCURRENCE OF ACHONDROPLASIA IN ANIMALS.

Several writers (Ballantyne,[6] Poncet and Leriche and others) have stated that achondroplasia occurs in animals and have suggested that dachshunds, basset hounds, Ancon sheep, &c , are examples of the disease. Evidence for and against the theory is somewhat difficult to procure but so far as I can make out there is no proof whatever that the disease does occur in animals. The various animals suggested will now be dealt with seriatim.

Dogs—Dachshunds.—The striking appearance of these animals, with their short and crooked legs and long body, has no doubt been the reason for supposing that achondroplasia is the cause. The following extracts, however, throw some light on the matter:—

> Though the origin of the dog generally is lost in obscurity, yet the dachshund can claim a very long pedigree, for a dog resembling it is found on the monument of Thothmes III , who reigned over Egypt more than 2000 years B C and at whose Court the inscriptions state he was a favourite, and a breed of similar appearance has been discovered by Dr *Haughton on early Assyrian sculptures No doubt research* would bring to light other notices of the same kind, but these show that the abnormal shape of the forelegs is not due to disease, as has been supposed by some who have not studied these dogs. ...... This peculiarity (i e., the short limbs, &c.) is more commonly found than is generally imagined Beside the basset, both rough and smooth, and the dachshund of France, it is apparent in an Indian breed, in the Swedish beagle, in the spaniel of Hungary and Transylvania, and almost certainly *in the old English bloodhound, though* judges, setting Shakespeare at nought, are trying to get rid of it as a deformity—Lovell.[7]

And again, Darwin[8] says:—

> *On Egyptian* monuments *from* the fourth to the twelfth dynasties (i e., from about 3400 B C. to 2100 B C.) several varieties of the dog are represented . There is also a turnspit with short and crooked legs, closely resembling the existing variety, *but this* kind of monstrosity is so common with various animals, as with the Ancon sheep, and even according to Rengger, with jaguars in Paraguay, that it would be rash to look at the monumental animal as the parent *of* all of our turnspits.

Now, *it is* inconceivable *that, even supposing* that an ancient Egyptian dachshund was afflicted with achondroplasia, *every separate individual born during* the last 3000 years should also be affected with the disease. Such a *condition* of things is absolutely unknown in pathology. It is much more likely that the shape of the dachshund arose *suddenly* as a variation and that it has been preserved by selection, either natural or artificial, through man.

> Some *of the peculiarities* characteristic of the several breeds of the dog have probably arisen suddenly and, though strictly inherited, may be called monstrosities, *for* instance, the shape of the legs and body in the turnspit of Europe and India. . . A peculiarity suddenly arising, and therefore, in one sense, deserving to be called a monstrosity, may however be increased and fixed by man's selection.—Darwin.[9]

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[6] Antenatal Pathology and Hygiene, 1902.

[7] Book of the Dog, by Vero Shaw.

[8] Animals and Plants under Domestication.

TABLE III.—GIVING PARTICULARS OF 34 COLLECTED CASES OF ACHONDROPLASIA.

Case.	Author.	Age.	Sex.	Height.	Circumference of the head	Humerus	Forearm.	Femur.	Leg.	Trunk.
				Inches.	Inches	Inches.	Inches.	Inches.	Inches.	Inches.
1	J. Thomson (Practitioner, vol. lxiii.).	5 months.	M.	23	—	3	—	—	—	—
2	" "	39 years.	M.	49	22·4	6·3	6·1	9·05	8·26	—
3	" "	35 "	M.	49	23·23	—	—	—	—	—
4	Wm. Turner (Practitioner, vol. lxiii.).	10 "	F.	37	21·75	5	4·5	7	5·5	—
5	Keyser.	$1\frac{7}{12}$ "	M.*	23	18·5	2·75	2·75	4·25		11
		$2\frac{5}{12}$ "		25·75	19	3	3·25	5·5	3·75	—
6	Ditto.	6 "	M.	37	21·5	3·75	6	7·5	9	15
7	A. E. Garrod (Transactions of the Clinical Society of London, 1893).	6 "	F.	37·5	—	4·5	—	7·75	7·25	21·
8	Pierre Marie (La Presse Medicale, No. 56, 1900).	41 "	M.	43	26·3	5·1	6·9	9	9·44	16·7
9	Pierre Marie.	18 "	M.	42·3	23·2	4·3	5·9	7·2	8·7	16·3
10	Poncet and Leriche (Revue de Chirurgie, December, 1903).	31 "	M.	47·24	22	6·69	7·48	11·02	10·63	21·26
11	Ditto.	23 "	F.	46·06	20·5	5·9	6·3	9·06	9·44	20·47
12	Boeckh.	23 "	F.	38·1	—	—	—	—	—	—
13	Bailly.	27 "	F.	40·7	—	—	—	—	—	—
14	Baldwin (Medical News, 1890).	24 "	F.	47·5	—	—	—	—	—	—
15	Jules Comby (Brit. Med. Jour., vol. ii., 1902).	5½ "	M.	34·4	21·2	4·4	4·4	5·2	6·0	—
16	Peloquin ("De l'Achondroplasie chez l'Homme et les Animaux," 1902).	25 "	M.	44·4	21·4	12·4		21·2		—
17	Ditto.	26 "	F.	39·6	—	—	—	—	—	—
18	Ditto.	30 "	M.	48·8	22·4	6·8	7·6	11·2	10·8	—
19	Ditto	27 "	F.	47·2	—	9·8	9·4	13·6	13·2	—
20	Pauly and Teissier.	45 "	F.	58·2	—	6	6	8·8	8	—
21	Parrot.	7½ "	F.	37·2	—	—	—	—	—	—
22	Charpentier.	39 "	F.	45	—	6·8	5·6	8	9·6	—
23	Crimail.	22 "	F.	51·2	—	7·6	7	11·4	12·4	—
24	Lugwe.	18 "	F.	48	—	7·2	6	9·6	10	—
25	Morse (Archives of Pediatrics, August, 1902).	2 months.	M.	16·8	13·2	2·8	2·6	2·6		—
26	Holt.	4 years.	F.	32	21	—	—	—	—	—
27	Herman (Archives of Pediatrics, January, 1903)	15 "	M.	46·8	21·8	6·2	6·8	8·8	10	—
28	Wood and Hewlett (Intercolonial Medical Journal, 1902).	45 "	M.	49·6	22·25	6·25	7	9·5	—	20·5
29	Ditto.	7 "	M.	37	22·5	4·75	4·25	7·25	5·75	15·25
30	Ditto.	8½ "	M.	36	22·5	5	—	12·75		14·25
31	Ditto.	11 "	F.	42·5	23·5	6·25	5·5	8·5	7·75	17
32	Balme and Reid (Practitioner, December, 1904)	12 "	M.	38·75	23·75	5·5	5·8	7·6	7·25	—
33	H. M. Joseph (THE LANCET, July 22nd, 1905, p. 217).	$3\frac{11}{12}$ "	F.	30	20·5	3·2	4·4	5·6	4·8	14·4
34	W. Byam	$3\frac{4}{12}$ "	F.	27·5	22	3	4	6·25	4·75	—

In Cases 10 and 11, 16 and 17, and 18 and 19 respectively the subjects were brothers and sisters. * The same patient at different ages.

Remarks.—CASE 5.—The *bridge of the* nose is markedly depressed. The hands with arms outstretched reach only *to* the umbilicus. *Main en trident.* No lordosis. Kyphosis present. Father only 4 feet 8 inches in height. Mother normal. CASE 6.—Marked depression of the bridge of the nose. *Main en trident.* Marked lordosis. No annular folds of skin about the knees. Very intelligent. Has grown two inches in one year. Parents normal. CASE 10.—Grandfather 4 feet 5 inches, also father. Mother 4 feet 7 inches. The bridge of the nose is slightly depressed. The hands are not typical. CASE 11.—*Main en trident* (slight). Very intelligent. CASE 15.—*Main en trident.* CASE 34.—Very intelligent. *Main en trident.* Both parents normal.

Moreover, on examining the skeleton of a dachshund there is not the least suspicion of any osseous disease. The fore-arms and legs are not longer than the arms and thighs, the epiphyses are normal, and the skull is not enlarged. The fibula does not enter into the formation of the knee-joint and the nasal bones are not depressed. If achondroplasia is diagnosed solely on account of the shortness of the legs as compared to the body, then basset hounds, Skye terriers, Aberdeen terriers, Yorkshire terriers, &c., must all be examples of the disease.

Cattle, &c.—Bull-dog calf.—This animal, which is always stillborn, is occasionally seen as the offspring of the Dexter Kerry cow. It is very small, being of about the size of a fox terrier, and has very short limbs as compared to the length of the body. It has received its name, however, from the extraordinary appearance of its face; this somewhat resembles a bull-dog owing to the shortness of the upper lip and jaw, the flattening of the nose, the wide nostrils, the projection of the lower jaw and lip, and the exposure of the gums. There is no reason for supposing that this condition is due to achondroplasia and it must be regarded simply as a monstrosity or "sport." This appearance of "bull-dog face" is not at all uncommon amongst animals, for besides the well-known examples, such as the bull-dog, pug, King Charles and Blenheim spaniels, it is mentioned by Darwin as occurring in two small herds of cattle which he saw on the north bank of the Plata river. They go by the name of Niata or Natas. The same authority quotes Professor Wyman of Cambridge, U.S.A., who observed the same thing in codfish. Mr. Boulenger, vice-president of the Zoological Society of London, informs me that a similar condition exists in carp, salmon, &c., and also in reptiles. E. Ray Lankester,[10] in speaking about elephants, says:—

> If you look at an elephant's skull and compare it with that of a dog or pig, you will be struck by the abrupt way in which the bones of the

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[10] Extinct Animals, 1905.

face are set. The face is almost straight so far as the bony parts are concerned—both the upper and lower jaw are quite short. There is, in fact, no "snout" indicated in the bony skull. This extreme shortening or pushing in (as it were) of the face is similar to what occurs in bull-dogs and pugs as compared with ordinary long-snouted dogs ...... only in the elephant it is carried further than in any dog. We may call this shortening of the face "bull-dogging." This "bull-dogging" of the skull occurs in a South American race of cattle called the Neatta breed. It seems that the ancestral elephants must have had a long face and bony snout like other animals but that their descendants have gradually become "bull dogged." The mastodon's skull shows far more of a projecting bony face or snout than does that of the elephant, and this would lead us to suppose that the mastodons are more primitive—that is to say, more like the ancient ancestors of elephants than are the true elephants. An interesting fact in this connexion is that the young, new-born elephant has a more "snouty" skull than the grown-up elephant. It is often the case that very young animals show features in which they resemble their ancestors which disappear as the young creatures grow to full size.

We may conclude then from these statements, made by eminent authorities, that there is no reason whatever to suppose that achondroplasia exists in animals.

TUBERCULOUS DISEASE OF THE SEMINAL TRACT.[1]

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THERE are two classes of disease that must always be of interest to us, those that are very rare, and for this reason interesting, and those that are very common, for on our power of curing common ailments depends largely our measure of professional success. It is to a very common disease—namely, tuberculosis—that I wish to draw your attention.

The genito-urinary tract is often attacked by tuberculous disease. In some parts of this system the diagnosis may be beset with considerable difficulty; in that portion of the system, the testicle, the cord, the seminal vesicles, and the prostate, to which I wish to call your attention, the diagnosis leaves as a rule no room for doubt. When the question of treatment arises there seems to be, on the other hand, considerable difficulty in selecting the best course to pursue; for this reason I hope that this paper, since it deals more particularly with the treatment of tuberculosis of the seminal tract, may prove of interest to you.

Tuberculous disease may occur primarily in the kidney, the bladder, the prostate, the seminal vesicles, or the testicle, or it may occur as a secondary deposit in any of these organs. The testicle is most commonly affected of all these, by testicle I mean both testis and epididymis, for the latter is more often attacked than the former. There is an interesting difference between the primary and secondary infection of the epididymis by tubercle. In the primary the disease is deposited in the tubules and from its commencement is in connexion with the lumen of the vas; in the secondary the infection more commonly occurs in the connective tissue outside the tubules, and it may be months before the bacilli gain entrance to the vas. This has an important bearing on the extension of the disease from a tuberculous epididymis.

In what direction does this disease spread from the epididymis? Into the body of the testicle itself, where inflammatory changes or the actions of toxins, or perhaps both causes, early in the disease render the testicle functionless. The flow of seminal fluid along the vas is very slow except during ejaculation, when the powerful muscular walls of the vas contract strongly. The tubercle bacilli are carried along in this sluggish stream and have many opportunities of infecting the walls of the vas; they finally reach the seminal vesicles, where they are stored for a time until finally discharged into the urethra. The vas may be infected the whole way along. In early cases of its infection this commonly takes place at either end—that is, within an inch or two of the epididymis or near its termination in the seminal vesicle. The cord between these two points may be quite normal and so lead one to suppose that as the cord is healthy above a tuberculous testicle therefore the disease has not extended up along the vas deferens.

CASE 1.—In February, 1905, I saw a young man who had had one testicle removed for tuberculous mischief about two years before. The second testicle now had a similar deposit; the cord felt quite normal and we hoped to be able to curette away the disease and to save the testicle if there was no sign of infection spreading up to the seminal vesicles. Even after the cord was exposed with its veins the vas felt normal but the testicle was found too far involved to save it and it was in consequence removed, the vas being separated from the rest of the cord at the same time. It then became apparent that the vas was not healthy; two minute nodules were situated in its wall about an inch above the testicle. As much as possible of the cord was removed and inside the abdomen two more small nodules were found on the vas. Rectal examination showed no sign of infection of the prostate or seminal vesicles, but I fear that this may occur later.

The disease often attacks the second testicle and from there it may extend backwards along the cord to the seminal vesicle on the same side, or the reverse may occur, the second vesicle being infected from the first vesicle or the prostate and from this the tubercle spreading to the testicle against the direction of the seminal flow. That infection can go in this direction we all know from cases that are not uncommon of sepsis spreading from the posterior urethra to the epididymis.

The age at which tubercle shows itself in the epididymis is about from 16 to 24 years, seldom after this, though deposits sometimes occur in infants. Injury is the most commonly assigned cause, where any cause at all is given. I think that a form of what I might almost call chronic injury is not without importance—I refer to masturbation. This is an unsavoury subject to discuss and for this reason is ignored to a greater extent by most surgeons than it deserves to be. So often in taking the histories of severe cases of genito-urinary tuberculosis have I learned that the patient was a masturbator and continued this practice after the first appearance of the disease that I feel confident that masturbation has a direct bearing both on the causation and the spread of tuberculosis of the genital tract. Where only one testicle is affected, as a rule the surgeon will not hesitate to remove the disease; in all probability to do this completely will necessitate the removal of the testicle. This loss is not a serious one from the patient's point of view and the operation is often attended with the most satisfactory results. Sometimes this is not so, and later the disease appears in the second testicle or when the patient first presents himself both the testes may be already infected. In these circumstances general anti-tuberculous treatment may be used, a partial operation may be done—i.e., the disease scraped away as completely as possible—or a complete operation may be done and both testicles removed.

Castration is a very serious operation from the patient's point of view and unless his surgeon can promise him almost certain success as the result of the operation he will hardly submit to it, even though the testicles themselves are functionless. I have already called your attention to the fact that early in the course of the disease, be it in testis or epididymis, the function of the testicle is lost; it is in these circumstances useless to the patient and a source of danger to him. If the disease has extended to the prostate, seminal vesicles, or bladder there is not much use in removing the testes and hoping that this may check the disease, for such hopes are not likely to be realised. This procedure has been often recommended but I do not think that it ever stops the advance of the disease, indeed, I believe that it has quite the opposite effect, that in reality it lessens the resisting power of the prostate and vesicles to withstand the advances of the tubercle, for the removal of the testes leads to a gradual atrophy of these organs, and with this atrophy there will in all probability be a diminished power of resistance to disease.

Can the extent to which the disease has spread be definitely made out? In most cases it can; if the urine is clear, if the bladder holds from 12 to 14 ounces without pain, and if there is no frequency of micturition, in all probability the bladder is not infected. Still infection of the bladder sometimes occurs as submucous tubercles which may give rise to no symptoms; they can be readily seen through a cystoscope. It is well in all such suspected cases to examine the bladder by this means.

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These three cases have many points in common. I could find no sign of tuberculous disease outside the genito-urinary tract; in each the deposit in the testicle was, I think, primary. This was followed by the infection of the vesicles, prostate, and remaining testicle at varying intervals; from this the disease spread to the bladder; in Case 3 it had reached one kidney; in Case 4 it had destroyed the kidneys and finally put an end to years of suffering. I fear that the same fate is in store for Cases 2 and 3; treatment may delay, but will hardly prevent, a similar termination. The disease occurred in otherwise healthy young men who all had surgical advice and the means to carry out the treatment ordered. In the worst case the disease developed while the patient was in Egypt and South Africa, both climates which should have helped to stay its progress. These three patients would have submitted to any operation, no matter what mutilation it might entail, if it would relieve their pain, even if it did not cure, but beyond draining the kidney in the one case I did not see that any operative interference was justified.

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On his discharge from hospital the patient was given orders to report himself to me once a month in case of further infection taking place. He did not come for three months; one end of the wound had opened and was discharging tuberculous pus, evidently from the remains of the diseased vas, the remaining testicle and cord showed signs of fresh infection, and tuberculous nodules could be felt in the prostate and both seminal vesicles; there was, in fact, active disease of the whole seminal tract. The urine remained normal, the bladder was healthy, but I could see the swollen right vesicle bulging up into the base of the bladder. I felt that the only treatment which offered a reasonable hope of success was the removal of the whole of the disease; the remaining testicle was useless and should be removed; with it should come both cords, vesicles, and prostate if this could be done without great risk to the patient.

There are three different routes by which the vesicles may be reached—Zuckerkandl's by a perineal incision; Kraske's by removing a portion of the sacrum, pulling the rectum to one side, and so exposing the base of the bladder; and Young's, who by a large T-shaped incision through the lower part of the abdominal wall dividing both recti muscles, gets face are set. The face is almost straight so far as the bony parts are concerned—both the upper and lower jaw are quite short. There is, in fact, no "snout" indicated in the bony skull. This extreme shortening or pushing in (as it were) of the face is similar to what occurs in bull-dogs and pugs as compared with ordinary long-snouted dogs ...... only in the elephant it is carried further than in any dog. We may call this shortening of the face "bull-dogging." This "bull-dogging" of the skull occurs in a South American race of cattle called the Neatta breed. It seems that the ancestral elephants must have had a long face and bony snout like other animals but that their descendants have gradually become "bull dogged." The mastodon's skull shows far more of a projecting bony face or snout than does that of the elephant, and this would lead us to suppose that the mastodons are more primitive—that is to say, more like the ancient ancestors of elephants than are the true elephants. An interesting fact in this connexion is that the young, new-born elephant has a more "snouty" skull than the grown-up elephant. It is often the case that very young animals show features in which they resemble their ancestors which disappear as the young creatures grow to full size.

We may conclude then from these statements, made by eminent authorities, that there is no reason whatever to suppose that achondroplasia exists in animals.

TUBERCULOUS DISEASE OF THE SEMINAL TRACT.[1]

BY K. E. LEVESON-GOWER GUNN, M.D. DUB., F.R.C.S. IREL.,

ASSISTANT SURGEON TO THE ADELAIDE HOSPITAL, DUBLIN.

THERE are two classes of disease that must always be of interest to us, those that are very rare, and for this reason interesting, and those that are very common, for on our power of curing common ailments depends largely our measure of professional success. It is to a very common disease—namely, tuberculosis—that I wish to draw your attention.

The genito-urinary tract is often attacked by tuberculous disease. In some parts of this system the diagnosis may be beset with considerable difficulty; in that portion of the system, the testicle, the cord, the seminal vesicles, and the prostate, to which I wish to call your attention, the diagnosis leaves as a rule no room for doubt. When the question of treatment arises there seems to be, on the other hand, considerable difficulty in selecting the best course to pursue; for this reason I hope that this paper, since it deals more particularly with the treatment of tuberculosis of the seminal tract, may prove of interest to you.

Tuberculous disease may occur primarily in the kidney, the bladder, the prostate, the seminal vesicles, or the testicle, or it may occur as a secondary deposit in any of these organs. The testicle is most commonly affected of all these, by testicle I mean both testis and epididymis, for the latter is more often attacked than the former. There is an interesting difference between the primary and secondary infection of the epididymis by tubercle. In the primary the disease is deposited in the tubules and from its commencement is in connexion with the lumen of the vas; in the secondary the infection more commonly occurs in the connective tissue outside the tubules, and it may be months before the bacilli gain entrance to the vas. This has an important bearing on the extension of the disease from a tuberculous epididymis.

In what direction does this disease spread from the epididymis? Into the body of the testicle itself, where inflammatory changes or the actions of toxins, or perhaps both causes, early in the disease render the testicle functionless. The flow of seminal fluid along the vas is very slow except during ejaculation, when the powerful muscular walls of the vas contract strongly. The tubercle bacilli are carried along in this sluggish stream and have many opportunities of infecting the walls of the vas; they finally reach the seminal vesicles, where they are stored for a time until finally discharged into the urethra. The vas may be infected the whole way along. In early cases of its infection this commonly takes place at either end—that is, within an inch or two of the epididymis or near its termination in the seminal vesicle. The cord between these two points may be quite normal and so lead one to suppose that as the cord is healthy above a tuberculous testicle therefore the disease has not extended up along the vas deferens.

CASE 1.—In February, 1905, I saw a young man who had had one testicle removed for tuberculous mischief about two years before. The second testicle now had a similar deposit; the cord felt quite normal and we hoped to be able to curette away the disease and to save the testicle if there was no sign of infection spreading up to the seminal vesicles. Even after the cord was exposed with its veins the vas felt normal but the testicle was found too far involved to save it and it was in consequence removed, the vas being separated from the rest of the cord at the same time. It then became apparent that the vas was not healthy; two minute nodules were situated in its wall about an inch above the testicle. As much as possible of the cord was removed and inside the abdomen two more small nodules were found on the vas. Rectal examination showed no sign of infection of the prostate or seminal vesicles, but I fear that this may occur later.

The disease often attacks the second testicle and from there it may extend backwards along the cord to the seminal vesicle on the same side, or the reverse may occur, the second vesicle being infected from the first vesicle or the prostate and from this the tubercle spreading to the testicle against the direction of the seminal flow. That infection can go in this direction we all know from cases that are not uncommon of sepsis spreading from the posterior urethra to the epididymis.

The age at which tubercle shows itself in the epididymis is about from 16 to 24 years, seldom after this, though deposits sometimes occur in infants. Injury is the most commonly assigned cause, where any cause at all is given. I think that a form of what I might almost call chronic injury is not without importance—I refer to masturbation. This is an unsavoury subject to discuss and for this reason is ignored to a greater extent by most surgeons than it deserves to be. So often in taking the histories of severe cases of genito-urinary tuberculosis have I learned that the patient was a masturbator and continued this practice after the first appearance of the disease that I feel confident that masturbation has a direct bearing both on the causation and the spread of tuberculosis of the genital tract. Where only one testicle is affected, as a rule the surgeon will not hesitate to remove the disease; in all probability to do this completely will necessitate the removal of the testicle. This loss is not a serious one from the patient's point of view and the operation is often attended with the most satisfactory results. Sometimes this is not so, and later the disease appears in the second testicle or when the patient first presents himself both the testes may be already infected. In these circumstances general anti-tuberculous treatment may be used, a partial operation may be done—i.e., the disease scraped away as completely as possible—or a complete operation may be done and both testicles removed.

Castration is a very serious operation from the patient's point of view and unless his surgeon can promise him almost certain success as the result of the operation he will hardly submit to it, even though the testicles themselves are functionless. I have already called your attention to the fact that early in the course of the disease, be it in testis or epididymis, the function of the testicle is lost; it is in these circumstances useless to the patient and a source of danger to him. If the disease has extended to the prostate, seminal vesicles, or bladder there is not much use in removing the testes and hoping that this may check the disease, for such hopes are not likely to be realised. This procedure has been often recommended but I do not think that it ever stops the advance of the disease, indeed, I believe that it has quite the opposite effect, that in reality it lessens the resisting power of the prostate and vesicles to withstand the advances of the tubercle, for the removal of the testes leads to a gradual atrophy of these organs, and with this atrophy there will in all probability be a diminished power of resistance to disease.

Can the extent to which the disease has spread be definitely made out? In most cases it can; if the urine is clear, if the bladder holds from 12 to 14 ounces without pain, and if there is no frequency of micturition, in all probability the bladder is not infected. Still infection of the bladder sometimes occurs as submucous tubercles which may give rise to no symptoms; they can be readily seen through a cystoscope. It is well in all such suspected cases to examine the bladder by this means.

Infection of the seminal vesicles and prostate may give rise to similar symptoms to those of bladder infection, and here, again, it is advisable to make a cystoscopic examination. On the other hand, I have seen several cases of infection of both prostate and vesicles in which there were no symptoms beyond a slight feeling of weight in the perineum, yet on rectal examination extensive disease of these organs could be easily made out. Nodules in the prostate can be readily felt by the examining finger in the rectum, but the vesicles are harder to reach; fully distending the bladder with from 20 to 30 ounces of an unirritating antiseptic lotion, and then placing the patient in the knee-chest position will be found of assistance in carrying out this examination.

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There are three different routes by which the vesicles may be reached—Zuckerkandl's by a perineal incision; Kraske's by removing a portion of the sacrum, pulling the rectum to one side, and so exposing the base of the bladder; and Young's, who by a large T-shaped incision through the lower part of the abdominal wall dividing both recti muscles, gets at the bladder in this way. Of these three the first is the simplest and much the least severe operation. I tried this operation several times on the cadaver but found it exceedingly difficult to reach the vesicles by this method. I looked up some works on genito-urinary surgery to see what advice they gave as to the removal of tuberculous seminal vesicles. The information they contained was not altogether encouraging. Watson Cheyne says: "Some surgeons have performed elaborate operations for the removal of tubercular seminal vesicles before suppuration has taken place. It is doubtful, however, whether an operation of this kind should ever be performed as it must be very extensive and the affection is usually secondary and therefore does not warrant it." Lydston says: "Any of the radical operations performed on the prostate and seminal vesicles for malignant or tubercular disease are, in the author's opinion, absolutely unjustifiable. The operator displays brilliancy of technic and boldness of surgical enterprise, but no other ends are conserved." Taylor says: "In the vast majority of cases, operative treatment is not to be thought of, unless suppuration has occurred in the sac, when its contents must be evacuated through a perineal incision, the cavity cleaned and packed with iodoform gauze. These patients should be sent to a suitable climate and receive the regular treatment for tuberculous subjects."

In spite of these remarks I still felt that an attempt should be made to remove the disease from my patient. I decided to follow the steps of Young's operation for perineal prostatectomy, hoping by the use of his tractor to bring the vesicles well within reach. I do not intend to describe the steps of the operation, as this was admirably done by Dr. C. A K. Ball at this Academy last session, a full account of which appears in last year's Transactions. The two dangers I feared were that in separating the adherent seminal vesicle from the bladder I might injure the ureter, the other that the veins surrounding the vesicles and prostate might cause dangerous hæmorrhage. As a precaution against the second I gave the patient drachm doses of chloride of calcium night and morning for three days before the operation. Whether this had any effect or not I cannot say, but the amount of blood lost during the operation was very slight. I removed the testicle and as much of the cord as I could from the front; then closing the inguinal wound I removed through the perineum the ends of both vasa deferentia, vesiculæ seminales, and the prostate. I had no great difficulty in separating the upper part of the right vesicle from the ureter, but the portion near the prostate was firmly attached to the bladder wall; either I used too much force with the tractor or had gone too deeply, for the blade of the instrument perforated the bladder wall where the vesicle had been attached to it. I made no attempt to close this opening but passed into the bladder two No. 12 catheters, one through the urethra and the second through the perineal wound and packed firmly round this perineal drain with iodoform gauze. The gauze plugs were removed on the second day, the perineal tube on the fourth day, and the urethral catheter on the seventh day. On the eighth day the patient was allowed up; he had then no difficulty in passing urine, had perfect control over the bladder, and there was no leakage from the perineal wound. On two occasions later some slight leakage occurred from this wound but did not last for more than a day and since then the wound has kept dry and has healed well.

Six months later I examined this patient. His bladder was quite healthy and the wound at the side of the trigone was firmly healed; the urine was normal. No return of the disease could be felt by the rectum. His general health was good; he had put on over a stone in weight since the operation. I hope that this case is cured.

CASE 6.—In August, 1905, another case of the same kind came under my care, with the exception that the patient was younger, only 19 years old, and that the one testicle was removed about a year before the disease appeared in the second. The cases were almost the same and I will not weary you with what would be almost a repetition of the one I have just described to you. The vesicles were not adherent to the same extent and came away without any injury to the bladder wall. The perineal wound was slower in closing. The boy was up on the eighth day and had perfect control of his bladder from this time onwards, yet for nearly a month there was a slight leakage of urine through the perineal wound every time he micturated. By the end of September he was able to resume his work and has since kept quite well and is putting on weight. It is much too soon to say there will be no recurrence of the disease in this case but his condition leads me to hope that he also is cured. The entire operation did not exceed in either case 45 minutes. This time included the removal of the testicle and cord by an inguinal incision and the prostate and vesicles by the perineal. There was no shock in either case but each patient received a saline transfusion before he left the operating table.

In conclusion let me recall to you a few important points. 1. That infection may readily pass along a normal vas to the vesicle or prostate; the fact that the vas above a diseased testis feels healthy is no proof that the tubercle has not extended to the vesicles. 2. That when both testicles and seminal vesicles are infected radical treatment alone is likely to be followed by success. 3. That where the disease is confined to the seminal tract it can be completely removed and that without any great risk to the patient. 4. That in all probability the patient is functionally no worse after such an operation than he is after a partial operation on both testes.

My thanks are due to Mr. T. E. Gordon who assisted me at the first operation and to Mr. F. T. Heuston who helped me at the second and also to Professor A. F. Dixon for much help and advice in the anatomy of the seminal region.

Dublin.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

BY HENRY C. KEATES, M.B., B.S. LOND.,
CAPTAIN, INDIAN MEDICAL SERVICE.

THE patient whose illness is now described was a Pathan recruit of the 51st Sikhs frontier force and was admitted into the regimental hospital at Fort Lockhart on March 22nd, 1906, for "jaundice." He was a strong, healthy-looking man, aged 18 years, and had never been in hospital before. He did not come of his own accord to hospital but he was noticed to be jaundiced when a medical inspection of a company of Pathans was being held and accordingly was sent to hospital. He had come up to the fort on the preceding day from Hangoo, a small post 15 miles away, and stated that he had been of a yellow colour for two days. His condition on admission was as follows. He had marked jaundice, his conjunctivæ were yellow, and his skin was of a saffron yellow tint. His urine contained a considerable quantity of bile but no albumin. His fæces were quite white. His pulse-rate was not slow, being 80, quite regular, and of good volume. His temperature was normal. An examination of the chest revealed nothing abnormal. Liver dulness commenced at the upper border of the sixth rib in front on the right side and in the back the tenth and eleventh spaces were dull. In the axillary line dulness extended up to the eighth rib. The liver and spleen could not be felt by abdominal palpation. The tongue was clean and the appetite was fair. He did not complain of anything except that he felt a little weak and that he had a certain amount of pain and discomfort in the epigastric region. It was thought to be an ordinary case of catarrhal jaundice. He was ordered a purge of calomel, followed by magnesium sulphate in the morning and a mixture containing 10 grains each of bismuth subnitrate and sodium bicarbonate three time daily.

The following notes were made during the progress of the case. "March 24th.—Patient is in much the same condition; he does not complain of any special discomfort. Jaundice is somewhat increased. Two grains of calomel were ordered to be taken nightly. April 2nd.—Nothing of note happened till this date when his temperature rose to 103·6° F. in the evening. During the last few days he has been rather restless and disinclined to move. His pulse-rate for the week has averaged 68 and his temperature has been quite normal. His appetite has been fair. April 3rd.—His temperature this morning was 100° and his pulse-rate was 88. Ten grains of quinine were ordered thrice daily. April 4th.—His temperature after rising to 103° in the evening became normal this morning. He appears much weaker to-day. Neither the spleen nor liver is enlarged and both appear normal in size. He is now extremely jaundiced, the tears and saliva are tinged with bile, and the mucous membranes and tongue have a yellow tinge. The tongue is slightly furred. There is slight tenderness on pressure in the epigastric region. The bowels have been open once daily since admission, the motions being quite white. April 6th.—There has been no more fever but patient is in a lethargic condition. He will not trouble to answer questions, objects to taking medicine, and is very irritable. His pulse-rate is somewhat higher, averaging 80. He has been put on a milk and farinaceous diet. April 7th.—He is bleeding slightly from the gums to-day but the latter look normal and are not spongy. Lime-juice in doses of two ounces daily was ordered. April 8th.—Patient is in much the same condition. The skin itches considerably, especially over the chest and back. There are patches of erythema on his chest. Yesterday and to-day there has been slight diarrhœa, yesterday six motions and to-day three. The nightly dose of calomel is stopped. April 10th.—Patient is delirious to-day. He is dirty, passing urine and and fæces in his bed. He sometimes stands upon his bed and urinates on the floor. He is very noisy at times and strongly objects to taking any medicine. He was singing during the night. Tongue dirty and covered with thick fur. His face has become sunken and he has vomited twice. The vomit is tinged with bile. His skin over the chest and back is peeling in large flakes and is apparently itching greatly, as he is continually scratching himself. The pulse-rate is sometimes now as high as 90. The diarrhœa has ceased. A mixture containing five minims of liquor strychninæ and ten grains of ammonium chloride was ordered thrice daily. April 11th.—Patient was more quiet during the night as he had been given a sleeping draught consisting of 20 grains each of chloral and potassium bromide. He is talking coherently this morning but has again passed urine on the floor. April 12th.—Patient not so noisy to-day. He has not again soiled his bed but has passed urine on the floor. April 13th.—The urine was examined again to-day. It has a specific gravity of 1020 and an acid reaction. It contains much bile and traces of albumin. Microscopically it contains a few granular casts, a few blood corpuscles, and some crystals of leucin. The liver dulness to-day is much diminished in area. In front dulness commences on the right side of the chest along the costal margin, that is to say, at the level of the lower border of the eighth rib. The sixth and seventh spaces are resonant; the eighth and ninth spaces are dull. There is no dulness below the costal margin, nor can the liver be felt. In the right axilla there is dulness in the ninth, tenth, and eleventh spaces and behind on the right side in the eleventh space. The spleen is not enlarged. Hæmorrhage from the gums still continues but there is no vomiting now. Patient is more sensible to-day but he is restless and very weak. Pulse feeble and rapid, its rate being 120. There is distinct tenderness on pressure over the left lobe of the liver in the epigastric region. April 14th.—The patient is more delirious to-day. He is passing urine in his bed. Last night he had a small rise of temperature to 99·4°. In the front of the chest the liver dulness has practically disappeared. There is only impaired resonance along the border of the ninth rib in front. The pulse-rate is 112. April 15th.—Patient is in a semi comatose condition to-day. He is lying on his back with his eyes shut and occasionally murmurs. He cannot be roused. He is constantly expectorating in all directions. His pulse-rate is 134. He will not take any nourishment and has to be forcibly fed with milk To-day there is some slight dulness in the sixth right space in front. The chest below this is resonant. His urine contained a trace of albumin. On evaporating some urine a few tyrosin crystals were found and leucin crystals as before. His head was shaved and cold compresses were applied. April 16th.—Patient was completely comatose to-day. His breathing was very shallow and his pulse feeble and rapid with a rate between 130 and 140. In the morning he was thought by the sick attendants to be dead. Both respirations and pulse became feebler and he died from exhaustion at mid-day." A post-mortem examination was asked for but was refused by his relatives.

I have no doubt that this was a typical case of acute yellow atrophy of the liver but until the mental symptoms became marked and vomiting occurred I thought that it was a severe case of catarrhal jaundice. When the patient became delirious and vomiting and bleeding from the gums occurred it was evident that a simple jaundice could not account for all these symptoms. When it was found that the liver dulness which had previously been normal was greatly diminished and that leucin crystals appeared in the urine there seemed little doubt of the diagnosis. I had no means at hand to determine the amount of urea in the urine and so I cannot say whether it was diminished or not. No tyrosin crystals were seen in the urine until the day before his death; the leucin crystals were, however, fairly numerous. Osler states that the total number of recorded cases is 240. About 70 per cent. of these have been women, so it appears to be a disease of extreme rarity in men. I could obtain no information as to the causation. Previously to this illness the man was perfectly healthy, there were no signs of syphilis, and being a Mahomedan he had probably never touched alcohol. The liver must have been greatly diminished in size, as it was only with very light percussion that even impaired resonance could be obtained over the hepatic area at the end of his illness. There was no great tendency to hæmorrhage; the only one that occurred was from the gums. No enlargement of the spleen was found, although this is generally stated to be the case. The jaundice was most intense but it did not show any tendency to increase with the advent of head symptoms; on the contrary, it appeared to be somewhat diminished towards the end. A peculiarity of the jaundice was that both the tears and saliva were tinged with bile. I much regret that no post-mortem examination could be held, as every case of this rare disease is worth recording.

Fort Lockhart, Samana, India.

ON DEEP ALCOHOL INJECTIONS IN FACIAL AND OTHER NEURALGIAS AND IN HISTRIONIC SPASM.

BY DR. F. OSTWALT.

FOR some years past I have made a special study of the treatment of facial neuralgia. My aim has been to find a therapeutic method by which a serious surgical operation might be avoided, even in very rebellious and chronic cases of tic douloureux, the uncertainty of the final result being too great to warrant such dangerous operations as those recommended in such cases. In some not too severe cases of supraorbital neuralgia I succeeded in relieving the patients by giving them once or twice daily, during a couple of weeks, local baths, lasting half an hour each, of superheated dry air by means of a special apparatus called by me "Thermaërophore."[1] It was not until 1904 that I was put in possession of a method giving entirely satisfactory results in more than 90 per cent. of all cases. The principle of the method alluded to depends in the main on the injection of nerve-destroying substances upon the nerve trunk, a treatment suggested for the first time in 1887 by Pitres and Vaillard and practically applied, since three or four years only, by Schlösser. I believe that I have improved upon this method in some essential points. We are now enabled to reach by our injections not only the third but also the second and first branches of the fifth nerve at the very point where they emerge from the apertures at the base of the skull. Consequently, the number of cases to be cured by these deep injections has considerably increased. The addition of cocaine or stovaine to the alcohol seems also to be a slight improvement.

I now proceed in the following way. Let us suppose that we have to deal with what I believe is the most frequent condition in Fothergill's disease, neuralgia of the second and third divisions of the fifth nerve. I screw my bayonet-shaped needle on a syringe filled with about a fluid drachm of alcohol at 80 per cent., mixed with a sixth of a grain of cocaine or stovaine. After having previously disinfected the mouth and cocainised the mucous membrane at the point of the puncture I introduce my needle directly behind the alveolus of the wisdom tooth into the mucous membrane of the upper fornix of the vestibule of the affected side of the mouth and pass it through the, here rather thick, submucous tissue. I then push the needle through the external pterygoid muscle or around its lower border until it touches the external pterygoid plate. Then I move the needle in the zygomatic fossa slowly and carefully upwards along the external pterygoid plate until it comes in contact with the infra-temporal surface of the great wing of the sphenoid bone. Now I slide the point of the needle backwards in the corner between this infra-temporal surface and the before-mentioned external pterygoid plate as long as I feel the resistance of bone. As soon as this resistance ceases and the point of my needle encounters soft tissue I have arrived at the foramen ovale. I have to push the needle only a little (about a half to one line) further up in order to be sure that it touches the inferior maxillary nerve at the point of its emergence from the skull. I now inject very slowly, and with many interruptions, from one-third to two-thirds of a fluid drachm of my solution of cocaine or stovaine in alcohol, guiding the needle round about the foramen ovale and directing the jet of alcohol particularly towards those bundles which contain the nerve fibres supplying the affected parts of the head. The injection at the foramen ovale is soon followed by formication and torpor of the different branches of the inferior maxillary nerve and if there has existed a neuralgic paroxysm before and at the beginning of the injection it is, as a rule, cut short by this latter. As soon as the injection in the third division of the fifth nerve has been terminated I draw back the needle about a line, then I slide it forwards, always in contact with the bone, in the aforesaid corner between the infra-temporal surface of the great wing of the sphenoid bone and the external pterygoid plate, until I feel that the bone resistance ceases here again. This is the case at the anterior and median, rather sharp border of the infra-temporal surface of the great wing—i.e., at the boundary line between the zygomatic and the spheno-maxillary fossa.[2] The needle must now be pushed straight upwards about as much as two and a half or three lines in order to meet the foramen rotundum and the trunk of the superior maxillary nerve coming out of this hole. After some practice one feels if in pushing it up one directs the body of the syringe very slightly forwards in order to make the point of the needle slide backwards on the anterior surface of the upper part of the pterygoid process—I say, one then feels distinctly the small bridge of bone that above separates the foramen rotundum from the sphenoidal fissure.

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[1] Annales d'Oculistique, vol. cxxxiii., p. 197.

After having thus ascertained that the point of my needle is exactly where I desire it to be I very slowly and with many pauses inject again about one-third of a fluid drachm of alcohol upon the second division of the fifth nerve at its point of emergence from the skull. In the rather infrequent case of simultaneous neuralgia of the first and second or the first, second, and third divisions of the fifth nerve I only need to push my needle, after the injection of the foramen rotundum, about a line more upwards. I then reach, after having passed over the afore-mentioned bridge of separating bone, the posterior lower end of the sphenoidal fissure, just at the place where the ophthalmic division of the fifth nerve passes from the middle cranial fossa to the orbit. A single puncture, followed by three successive injections, thus enables me to obtain a temporary incomplete paralysis of all the three divisions of the fifth nerve—i.e., an anæsthesia extending all over one side of the anterior half of the head from the vertex to the chin, including the nostril, the palate, and half the tongue. Even the masticatory muscles as a rule participate in this incomplete paralysis, to a certain degree at least.

I may say we are performing in this way a rather inoffensive, transient resection of the Gasserian ganglion. Transient it is, because the incomplete paralysis does not very often last more than a few hours or days. Sometimes it disappears only after some weeks, even after two or three months. It shows that the alcohol injections produce a degenerative process in the nerve, according to the experiments described years ago by Pitres and Vaillard. This degeneration is never more than temporary; the nerve always recovers its normal state and function, after a space of time varying from one case to another, as I have stated before—only the condition of pathological irritability which produced the neuralgia does not return at the same time, at least in the very great majority of cases. A single puncture will seldom be sufficient to cure the neuralgia. No doubt we rarely succeed the very first time in acting upon all altered nerve fibres together. Generally two, three, or four, sometimes even more sittings are needed in order to remove the pain entirely. But, as a rule, patients obtain great relief immediately after the first operation and this gives them courage and confidence to persevere in the treatment. I generally wait five or seven days between two interventions at the same place. This is the time, as a rule, that the œdematous swelling, which follows the injection, takes to disappear. In the case where, from the outset or after a previous injection at the foramina of the base of the skull, the neuralgia is localised in one of the peripheral branches of the fifth nerve I inject the alcohol solution on more peripheral, but nevertheless still sufficiently deep, points of the three divisions of this nerve, following therein exactly the precepts of Schlösser. The spot of the injection is then far backwards under the orbital vault for the terminal branches of the ophthalmic nerve, at the very end of the infra-orbital canal or groove for those of the superior maxillary nerve, and behind the ramus of the lower jaw for those of the inferior maxillary division of the fifth nerve. If these more peripheral injections do not completely triumph over the neuralgia I once more attack the suffering nerves at the apertures of the base of the skull.

Time can be gained by making the injections sometimes at the foramina of the base, sometimes more peripherally, because in that way one is not obliged to wait for the complete or nearly complete disappearance of the swelling which ensues. As a rule it is not advisable for operations upon the same branch of the fifth nerve to follow each other at too close intervals, because sometimes an injection, which is at first apparently quite inefficient, after a week's or a fortnight's delay leads to an entirely satisfactory result. It is evident that the technique of these punctures, especially of those at the foramina of the base of the skull, are not so very simple; they require a hand accustomed to rather delicate surgical work. The needle has to be directed with precision right on to the nerve, which is, of course, inaccessible to sight and touch; it has then to bring the nerve-destroying agent into contact with the nerve fibres. But we must not advance our needle any farther than absolutely necessary in order not to wound blood-vessels or vital organs in the neighbourhood. A perfect knowledge of the anatomy of the skull and of the varieties of its conformation is, of course, indispensable. It is evident that one succeeds only after some practice in obtaining a positive result in every case which is amenable to treatment by these injections—i.e., as has been mentioned already, in at least nine-tenths of the whole number. It is more than probable that in the remaining one-tenth the cause of the neuralgia lies within the cranial cavity. At any rate, it seems to me that facial neuralgia has much more often a peripheral origin than Pitres and Verger thought, guiding themselves by the efficiency or inefficiency of their cocaine injections *loco dolenti*.[3]

In order to show that one really is able, not only on the bare cranium but also on the intact head, to reach with the needle the three divisions of the fifth nerve at the points where they emerge from the apertures at the base of the skull, I injected melted red tallow on the dead subject in the Anatomical Institute of the Parisian Medical School, proceeding exactly in the same way as in the case of living patients. Then I dissected the head and convinced myself that the consolidated tallow included the nerve trunks at the desired points. I had the honour of demonstrating the preparation in question at a combined sitting of the Sections of Medicine and Neurology of the Fifteenth International Congress of Medicine at Lisbon. It illustrates in a very striking manner the superiority of my method. The so often affected second division of the fifth nerve particularly benefits by the improved process. Previously, the deeper branches of this division (the spheno-palatine nerves, the posterior dental nerves, the zygomatico-temporal nerve) could not be reached by the injections.

Up to the present I have treated by the aforesaid method of deep alcohol injections 60 cases of Fothergill's disease. 25 of these cases have been operated upon in different Parisian hospitals (Salpêtrière, Bicêtre, Beaujon, Hôtel Dieu, &c.) in presence of the medical officers or their assistants. All these medical men could bear testimony of the efficiency of my operations in almost all the cases I had to deal with.[4] In a few years, when I shall be able to relate the subsequent history of my patients, I shall publish a detailed statistical report on my cases. At the same time I shall give the names of the practitioners who kindly sent me the patients not treated by me in the hospitals. It may be stated here that all the cases submitted to my injections belonged to the most severe form of neuralgia, the "grande névralgie" of Zimmern. Most of my patients had been suffering cruelly for a number of years. There are among the patients now cured not a few whose existence had been during the last 6, 7, 9, 10, 13, 16, and even 20 and 30 years, a real martyrdom. Many of my patients had been forced by the frequency and the violence of their paroxysms to abandon their work. More than one had previously undergone more or less important surgical operations (operation of Jarre, one or more neurectomies). It is hardly worth while to mention that in much more than half of the cases all, or nearly all, the teeth of one or both jaws on the affected side had been extracted. Needless to say that in all cases the usual toxic drugs had been taken, generally for a long period, without any lasting effect. Often an energetic electric treatment, even such as the much-vaunted treatment of Bergonié (daily applications of an intense constant current by means of a large electrode of at least half an hour's duration) had been continued constantly, sometimes even for years. A few patients had undergone with hardly any benefit a treatment by the x rays. As a matter of course syphilitic patients have not been operated upon before an energetic antisyphilitic treatment had proved unsuccessful. Inquiries as to other local (sinusitis, &c.) and general causes of neuralgia (malaria, diabetes) had not been forgotten either, in so much that only typical cases of Fothergill's disease were submitted to our injections. According to the statements of the patients operated upon these injections cause no more pain—generally even much less—than a neuralgic crisis. Previous injection of stovaine much reduces the pain. There is, moreover, no objection when operating upon especially timorous persons to the use of chloroform, or better, chloride of ethyl, so as to obtain general anæsthesia. Patients who have once benefited by these deep alcohol injections given during a neuralgic crisis and who have experienced the remarkably quick relief produced, return for a fresh treatment as soon as the slightest relapse occurs.

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[2] Sometimes there is a rather prominent bone crest separating the zygomatic from the spheno-maxillary fossa. Then we have to pass our needle round this crest in order to introduce it into the spheno-maxillary fossa.

[3] Revue de Médecine, 1904, p. 34, &c.

[4] Note présentée à l'Académie de Médecine le 30 Mai, 1905, and G. Laporte, Thèse de Paris, 1905.

As regards relapses, they occur perhaps in one-third of all cases and then, as a rule, about five months after the first treatment. I have not yet followed most of my patients for a sufficiently long time to be entitled to quote absolutely trustworthy figures on this point.[5] Generally those relapses are much less severe than the original neuralgia and they are, as a rule, promptly relieved by one or two more injections. Considering that this treatment does not even force patients to interrupt their ordinary work and still less to take to their beds, the possibility of a relapse, existing after all treatments of neuralgia, need not frighten them particularly, as they may be quite convinced by our assertion that it will certainly be cured in a few days by the same method. It is just one of the great advantages of this proceeding that it may be repeated without the slightest danger on the same patient as often as necessary. For my part I have never observed any accident worth mentioning among several hundred deep alcohol injections of this kind which I have already performed. Although I am not yet entitled to speak categorically with regard to this point I think that frequently a single series of these injections delivers patients, once for all, even from the severest form of neuralgia. I am led to this view by the fact that several of my patients who had been suffering, in the most terrible degree, from trigeminal neuralgia for 4, 12, 13, and even a greater number of years, and who had become exceedingly emaciated by acute persistent pain, through want of sleep and from difficulty in nourishing themselves, are already free from neuralgia for more than a year after a single series of two, three, or four such injections and have recovered long ago their former weight and good looks. (The weight of some of my patients has increased in the few weeks succeeding the injections by 10, 16, and even 30 pounds.) At any rate, the innocuousness of the process authorises me to recommend it, most urgently, in all cases where a previous internal treatment has not rapidly cured the neuralgia. I even go further; I venture to say that it is preferable to have recourse to the deep alcohol injections rather than to intoxicate patients by strong doses of opium, morphine, aconitine, &c.

As has already been stated by Professor Schlösser, the *modus agendi* of these alcohol injections shows itself very clearly when they are directed not upon sensory but upon pathologically excited motor nerves; for instance, in case of histrionic spasm. Like Schlösser, I have in ten of these cases obtained excellent results by injecting alcohol at 70 or 80 per cent. mixed with one-sixth of a grain of stovaine on the trunk of the facial nerve at its point of emergence from the stylo-mastoid foramen. My patients had been, as a rule, suffering from spasm for a number of years. So great had generally been the strength of the clonic contractions of the facial muscles that sight had been considerably troubled on the affected side. This trouble had been brought on not only by the continuous little oscillations of the eyeball, but undoubtedly also by the astigmatic deformation of the corneal curvature due to the pressure of the constantly contracting orbicularis palpebrarum muscle. Some of my patients have been induced to ask for the operation more perhaps on account of these ocular troubles than on account of the grimace, although this latter was a great annoyance to them in social life. By following exactly the rules established by Schlösser one succeeds, as a rule, perfectly well in abolishing the pathological irritation of the nerve without producing any visible paralysis of the facial nerve. Those patients all of whom had tried without any result every possible therapeutic means recommended for the contractions, do not know how to express their gratitude when they are delivered from their spasmodic tic by one, two, or three, rarely more, injections.

Just as alcohol applied to the facial nerve is able to modify this motor nerve in such a manner that the condition of chronic irritation yields without the conductibility of the nerve being annihilated, so also after such an injection, made upon a sensory nerve, the chronic pathological irritation—i.e., the neuralgia—disappears without the function of this nerve being destroyed, at least for any length of time. I here speak quite generally of "sensory nerves" and "neuralgia," because it is a matter of course that the efficiency of these injections is not limited to facial neuralgia. On this point, too, I fully agree with Schlösser.

I have already treated a considerable number of cases of sciatica, often even of the most rebellious chronic kind. One, two, or three injections, as a rule, of alcohol solution made upon the trunk of the peroneal nerve (under the head of the fibula), or of the external saphenous nerve (at the calf), or upon the trunk of the sciatic nerve (at the thigh just underneath the gluteal fold or, if that does not yet suffice, in the great sciatic notch) cure the neuralgia, in the immense majority of cases very rapidly. As in the case of trigeminal injections, pain is generally relieved even during the injection and it is in the same way replaced by a not painful sensation of formication and temporary torpor of the member. It may be stated *en passant* that sciatica caused mechanically by deep varicose veins is not to be cured by the alcohol injections. I scarcely need to remark that before making the diagnosis of sciatica we ought to assure ourselves thoroughly that we have not to deal with an affection of the spinal cord. It is evident that in this latter case interference would be useless; the method would, however, do no harm in this case either. Besides sciatica I have treated in the same way severe neuralgias of the anterior crural nerve, of the obturator nerve, of the external cutaneous nerve of the thigh, of the ulnar, of the cervical plexus, &c. Patients who had been unable to work for weeks and months in consequence of their neuralgia could often return to work some days after our treatment. These deep alcoholic injections are therefore to be considered as a very valuable therapeutic progress. They ought to be strongly recommended, not only in facial but also in all other neuralgias, as well as in muscular cramp (histrionic spasm, &c.). This is why I thought it advisable to make the medical profession at once acquainted with my personal experience of the action of these injections.

Paris.

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[5] It would seem that our injections are not more often followed by relapses than neurectomies. Look, for instance, at the recent statistics of so skilful an operator as Professor Krause of Berlin (Berliner Klinische Wochenschrift, 1906, No. 12). 11 only of his 55 neurectomies remained free from recurrence of their neuralgia.

Cardiff City Asylum.—At a meeting of the Cardiff asylums committee held on May 29th it was reported that the capital expenditure up to date was £230,669. The committee decided to recommend the city council to advertise for a medical superintendent at a salary of £650 per annum, to be raised annually by £50 until £800 is reached, with unfurnished residence.

A CASE OF ACUTE POISONING WITH OIL OF EUCALYPTUS.[1]

BY JOSEPH BENJAMIN,
HONORARY SECRETARY TO THE AHMEDABAD MEDICAL SOCIETY.

ON March 22nd I was called at about 11 A.M. to see a Kunbi child, aged about eight years. He had been suffering from remittent fever since March 15th and was being treated for this by a medical practitioner who had also given a bottle of eucalyptus oil to be sprinkled on the patient's bed as he had come from Sarashur where plague was raging. The patient was to have a dose of a diaphoretic mixture at 5 A.M. but one of his female relatives by mistake gave him instead of this six drachms of the eucalyptus oil that was in the bottle. He vomited half an hour afterwards and at 7 A.M. he became unconscious. The medical attendant who saw him at the time gave him a dose of Carnrick's liquid peptonoids to sustain his strength, after which he vomited again. The vomited matter smelt strongly of eucalyptus oil. As the patient did not improve another practitioner was called in consultation at 8 A.M. and gave the lad common salt with warm water and tickled his throat with a feather, after which he vomited thrice again. The vomited matters still smelt of eucalyptus oil. The medical man then prescribed for the child aromatic spirit of ammonia and spirit of chloroform in ten-minim doses, each with water, to be given every two hours, as he found the pulse to be weak. As the patient continued unconscious I was sent for at 11 A.M., as already mentioned. On my arrival the unconsciousness still continued, the pupils were very much contracted, the breathing was somewhat laboured, and there was hiccough every four or five minutes. Urine had not been passed since 6 A.M. The bowels were moved once at about 9.30 A.M. and the abdomen was tympanitic. The boy's temperature was 99·8° F. and his pulse and respirations were respectively 128 and 36 per minute. Cold water was poured over his head for 15 minutes and mustard plasters were applied to the nape of the neck and to the abdomen. A short time after this his bowels acted but as the tympanites did not abate he was given an enema of warm water when only yellowish liquid matter came away. He was then given a mixture containing aromatic spirit of ammonia, spirit of ether, spirit of chloroform, compound tincture of cinchona, and tincture of digitalis. At about 12.30 P.M. he became slightly conscious. On being asked to put out his tongue he tried to do so but could not bring it outside the teeth and lapsed into unconsciousness again. Ice was then applied to his head. He passed urine at 2 P.M. and regained consciousness at 3 P.M. On the next morning the symptoms caused by the eucalyptus oil had disappeared but the fever from which he had been suffering still continued.

Examples of poisoning by eucalyptus are somewhat rare. Three cases occurring in adults were recorded in THE LANCET of Sept. 30th and Dec. 30th, 1905. A semi-comatose condition was observed in all these three cases. In the case seen by me the comatose condition was more marked because the quantity swallowed was much larger than in the above instances and moreover the patient was a child. Eucalyptus oil, although generally considered to be innocuous, may therefore act like a narcotic, though no death has, so far as I am aware, been reported to have resulted from poisoning by it. Bruce's "Materia Medica" states that eucalyptus oil contains 70 per cent. of terpene and that its action is like that of turpentine oil when taken internally.

Ahmedabad, British India.

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[1] Abstract of a paper read before the Ahmedabad Medical Society on March 27th, 1906.

LLANELLY HOSPITAL.—At the annual meeting of the subscribers to the Llanelly Hospital held recently it was stated that 257 patients were admitted last year as compared with 244 in 1904. The total income of the institution amounted to £1838 and the expenditure to £1244. The committee alludes to the generosity of Mrs. Buckley who defrayed the entire cost of a children's ward as a memorial to her husband, the late Mr. H. C. Buckley, for many years medical officer of health of Llanelly.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TWO CASES OF TETANUS AFTER CHILDBIRTH SUCCESSFULLY TREATED WITH CANNABIS INDICA.

BY ANNA M. SEATON SMITH, M.B. LOND.,
CHURCH OF ENGLAND ZENANA MISSION HOSPITAL, BATALA, PUNJAB.

DURING two and a half years' work in the Punjab I saw some 12 or 13 cases of tetanus of which all but two occurred after childbirth. The first nine or ten were all fatal. I was then led to try cannabis Indica by hearing that the smoking of bhang during the spasms was believed by some natives to give temporary relief. The first patient for whom it was used only stayed in hospital 12 hours. During that time she had over a drachm of the tincture and also had her jaws opened under chloroform and was fed by a stomach tube. There was some improvement in her condition but her friends insisted on taking her away and would not take medicine with them. She died two (?) days later.

The next two cases occurred respectively in November and December, 1905. The first of these patients, who was a Mahomedan, aged 30 years, did not come under observation until ten days after labour and at that time had well-marked symptoms of tetanus. The masseters, the muscles of the neck, and the abdominal muscles were all rigid; risus sardonicus was marked and the jaws were firmly clenched. Paroxysmal contractions were frequent but not severe. The patient first noticed the stiffness of the jaw seven days after labour but had only become worse during the 24 hours before being brought to the hospital. She refused to stay in the hospital and therefore had to be seen at her home as occasion and opportunity arose. She was put on large doses of cannabis Indica, taking 15 minims of the tincture every three hours for the first 12 hours, and after that every four hours for the next three days. The dose was then reduced gradually till by the ninth day she was having six minims three times a day. The treatment at once stopped the increase in the severity of the symptoms; the spasms became less frequent, though rather stronger at first; the rigidity decreased and the jaw was less fixed. From the third day improvement was more marked and continued steadily till by the fourteenth day the patient was well and able to walk to the hospital.

The second patient, who was a Hindu, aged 25 years, was admitted to hospital 20 days after labour. She had been carried on a bed about 20 miles. The history that was given was very confused, but apparently after labour "the womb came down" and was replaced by the woman who was in attendance. On the tenth day she had a fall and "the womb again came down" and was again replaced. On the sixteenth day she noticed stiffness of her legs; on the nineteenth day this became much worse and all the symptoms of tetanus rapidly developed. On admission she had rigid contraction of the muscles of the jaw, the neck, the abdomen, and the thighs. The thighs were flexed and widely abducted and could not be brought together. The patient had a particularly distressing frequent cough. Her chest was full of moist sounds but she could expectorate nothing, as the cough was always arrested by the spasm which it induced. Her general condition was one of such distress and danger as to be most painful to witness and I had no hope of her recovery when she was admitted. She was treated similarly to the case above-mentioned but the cannabis Indica was pushed even more as she was under constant observation. There was at once a very marked improvement; the cough became less troublesome, the spasms less frequent, the tonic rigidity less marked, and the whole condition much alleviated. On the sixth day she walked round her bed and on the thirteenth day was discharged free from all symptoms except a slight stiffness of the lower limbs. The uterus was not curetted in the first case but it was in the second, though not till the fifth day after admission. In this case, which was by far the more severe of the two, indeed the worst I had seen, I am inclined to think the infection occurred not at labour but ten days later when the uterus was replaced the second time. In both cases the child did well.

A FATAL CASE OF ENDOCARDITIS IN A YOUNG CHILD.

BY JOHN O. SYMES, M.D. LOND., D.P.H.,
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ENDOCARDITIS is a rare condition in children under two years of age unless it be of congenital origin or consequent upon some infective fever. Dr. J. F. Goodhart and Dr. G. F. Still record that of 169 cases of endocarditis in children only 16 were under four years of age, and of these 12 were probably congenital. I have therefore thought that the following case is worthy of record.

The patient was a girl, aged two years, who attended the out-patient department of the Bristol General Hospital on June 27th, 1905, and was said by her parents to have been ailing since an attack of vomiting and diarrhœa 14 days previously. Although this attack had passed off the child was left pale and so weak that she could hardly walk; they thought, too, that she was wasting. There was no history of previous illness except some enlargement of the cervical glands six months previously. A loud systolic bruit was audible at the heart's apex and was conducted in all directions. The child was admitted to the hospital on July 4th. She was markedly anæmic and thin, the respiration was rapid, and there was orthopnœa. The apex beat was in the fifth and sixth spaces in the nipple line, the left border of the heart was one inch outside the nipple line, and the right border was at the mid-sternum. At the apex the first and second sounds were audible and a loud systolic bruit was carried out to the axilla and heard over the back. The pulse-rate was 136 and the respiration rate was 68. Both liver and spleen were just palpable beneath the costal margin. There were shotty lymph glands in the triangles of the neck, the axilla, and the popliteal spaces. The temperature was subnormal. Examination of the blood showed that a cubic millimetre contained 4,800,000 red cells and 44,000 white ones; the hæmoglobin was 70 per cent. During the six weeks of the child's stay in hospital her condition gradually became weaker and the heart's action and respiration more rapid. She died on August 10th. There were never any signs of arthritis, of hæmorrhage into the skin, or of rheumatic nodules. The temperature never reached 100° F. until August 7th and 8th (i.e., two days before death), when it rose to 101·6° each evening; morning temperatures of 96·8° were recorded on July 28th and August 1st and 7th, but the usual daily range was between 97·8° and 99·6°. The pulse-rate varied between 130 and 160 and the respirations between 50 and 70 per minute.

A post-mortem examination showed that the edges of the mitral valve were studded with recent minute vegetations. The wall of the left ventricle was hypertrophied and the chamber dilated. There were no suppurative foci found throughout the body. A stained section of a fragment of the mitral valve showed the vegetations to be crowded with a diplo-streptococcus both on the free surface and on the deeper parts. The organism was larger than any specimens of the diplococcus rheumaticus that I have seen. It retained the stain if treated by Gram's method. Unfortunately, I left Bristol on the day following the post-mortem examination and consequently did not see the cultures prepared from the spleen. The naked-eye appearances were those of rheumatic endocarditis and the hypertrophy of the left ventricle would indicate that this must have been of longer duration than might have been supposed from the history supplied by the parents. Although the rapidly fatal termination of the case suggested a malignant endocarditis, yet no septic focus could be discovered nor were large vegetations, or ulceration of the mitral valves, or infarcts in organs found at the post-mortem examination.

Clifton, Bristol.

PENALTY INCURRED BY A WATER COMPANY.—The Tredegar (Monmouthshire) bench of magistrates imposed a penalty of £100, with 30 guineas costs, upon a water company which neglected to supply water to ten houses at Aberbargoed.

Medical Societies.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 23rd, Dr. J. K. Kelly, the President, being in the chair.—The following specimens were shown:—Dr. J. Nigel Stark: Abscess in the Ovary, the Tube not being affected; Adhesions to the Cæcum and Appendix.—Dr. Russell: (1) A Large Fibroid of the Uterus removed for severe hæmorrhage; (2) Multiple Fibroids of the Uterus removed for pain; and (3) Multiple Fibroids of the Uterus with Adherent Tubes and Ovaries.—Dr. J. M. Munro Kerr: (1) A Large Unilocular Cyst complicating Pregnancy; and (2) Tubal Pregnancy, the tube being unruptured.—The President: A Sarcomatous Tumour of the Uterus with early Pregnancy.—The President and Dr. A. Louise McIlroy gave notes, with lantern and microscopic demonstration of a case of Pregnancy occurring in a Graafian Follicle. A brief outline of the literature of ovarian pregnancy was given, with a short description of the best known cases, including those of Koumer, van Tussenbroeck, Thompson, Mendes de Léon, Holleman, and the latest one by Freund and Thomé. In the present case the patient, aged 33 years, had been married for 12 years and had had five children, the last one being born two and a half years before she came under observation. She was admitted to the Glasgow Royal Infirmary on Jan. 25th, 1905. She had had an attack of severe pain in both iliac regions in the beginning of December, 1904, after a period of six weeks' amenorrhœa; this pain was followed by a hæmorrhagic discharge from the uterus which lasted for three days and then returned in four days, lasting that length of time. The discharge returned in a fortnight and was present when the patient was admitted to the infirmary. On examination there was found to be tenderness over the left iliac region but no tumour was felt. Per vaginam the cervix proved to be in the ordinary situation, the uterus to be normal in position and somewhat enlarged, and the left appendages which formed a considerable mass were tender to pressure. Extra-uterine pregnancy was diagnosed but as there was no hæmatocele operation was delayed for some days. As the discharge still continued the abdomen was opened on Feb. 6th and a small blood cyst was found in the left ovary; this was removed with the tube. On the right side the adnexa were normal. No blood was found in the peritoneal cavity. Recovery was uninterrupted. The specimen was of the size of a Victoria plum. In the upper part was the normal ovarian tissue, pale in colour; the lower part was rough and deeply stained with hæmorrhage. The tube and mesosalpinx were normal. Subsequent microscopical examinations of the tube showed normal ciliated epithelium. The blood mass in the ovary was divided into two parts and one portion was cut into sections and examined under the microscope. No embryo was found. The ovum was discovered to be imbedded inside a Graafian follicle, the walls of which were found to contain lutein tissue. The walls of the ovisac were much thinned out in the lower portion of the specimen where rupture would have taken place later. Strands of amnion and chorion were found in the blood mass with degenerated chorionic villi. In some places masses of trophoblast were seen in contact with the layer of canalised fibrin. Masses of syncytial cells were also seen in the blood clot. The ovum had been imbedded on a layer of connective tissue inside the lutein cell layer; nowhere were decidual cells found. The whole ovum was completely surrounded by ovarian tissue which contained follicles in its substance in the upper portion. Two corpora lutea were found in the ovarian tissue. The illustrations comprised drawings of the specimen before cutting into the interior and also sections of villi in the centre of the blood mass and lying on fibrin layers, &c.—Dr. John Lindsay said that this was the first case published in Scotland and was therefore of great interest to the society.—Dr. Munro Kerr had had a similar case two and a half years ago but had not as yet fully published it; his specimen was shown at the Edinburgh Obstetrical Society and had been seen by several eminent gynæcologists since. The patient had had symptoms of extra-uterine pregnancy with severe pain, and intra-uterine pregnancy was also present. At the operation an enlarged ovary was found with tube intact; the uterus was enlarged and soft. The patient was delivered at full term of a healthy child. The specimen showed a six weeks pregnancy, the ovum being imbedded in the *ovarian stroma*; a corpus luteum was present and the remains of the embryo were found. Dr. Kerr said that these cases of ovarian pregnancy proved the fœtal origin of the syncytium and also cleared up many points on the imbedding of the ovum.—The subsequent business of the meeting was the election of office-bearers. Professor Budin of Paris was elected an honorary president and Dr. E. H. L. Oliphant was unanimously elected President of the society.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—A meeting of the section of surgery was held on May 11th, Sir Arthur Chance, the President, being in the chair.—Sir William Thomson read a paper on a further series of cases of Enucleation of the Prostate. He described the more important of 18 cases and discussed various points of interest which had been noticed. One of the specimens showed weighed six and a quarter ounces and one ten ounces, less a few grains. He described the after-treatment of the cases, the management of various complications, and discussed continuous severe hæmorrhage from the prostate. For this he had carried out enucleation with success. He believed this was the first time that the operation had been reported, as undertaken for hæmorrhage only, and he maintained that it was the proper treatment where all other means failed.—Sir Thornley Stoker expressed himself in doubt as to the accuracy of statistics concerning the mortality resulting from operation for prostatic enlargement. The time required for prostatic enucleation, in his experience, varied. He had enucleated a large prostatic growth in two minutes but in another case in which the growth was small the enucleation took half an hour. He recommended benzoate of sodium as a useful drug for promoting acidity of the urine. He considered the Trendelenburg position attended by danger in the case of aged patients.—Sir Arthur Chance favoured operative measures directed towards the relief of patients suffering from the effects of senile prostatic enlargement. He had found large prostates easy to deal with and he had frequently noticed that small prostates gave the most trouble. In fatal cases the cause of death was usually intra-thoracic complications. He regarded the Trendelenburg position as of great assistance and he had not found it attended by any obvious risk.—Sir William Thomson, in replying, stated that there was no direct relationship between the degree of prostatic enlargement and the intensity of the symptoms. He alluded to cases of death following suddenly after operation and which were due evidently to embolism. With regard to washing out the bladder, he usually did so through the urethra 48 hours after the enucleation.—Dr. K. E. L. G. Gunn read a note on Bladder Tumours and illustrated his remarks with the aid of a series of lantern slides.

Reviews and Notices of Books.

A Text-book on the Practice of Medicine designed for the Use of Students. By JAMES MAGOFFIN FRENCH, M.D., Lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Illustrated by 10 full-page plates and 50 wood engravings. London: Henry Kimpton. 1904. Pp. 780. Price 16*s.* net.

NOTWITHSTANDING the admitted existence of many excellent text-books on the practice of medicine the author, from an experience of nearly 25 years as an instructor, is convinced that this book cannot fail to meet the requirements of medical students. This sanguine expectation appears to be based upon certain features which, in the author's opinion, distinguish the present volume from its rivals in the field. These features are enumerated as follows: the statement only of those facts of medicine which are accepted by the best authorities; their expression in simple, concise language and in logical sequence; the suppression of indications of personal experience; the omission of the "pleasant diversion of case reports"; and the mention of the names of authorities only when it seemed improper to omit them. Most students will agree broadly that many of these features are to be desired in a text-book; it is better to have the facts sifted and the material predigested, while simple, concise language is a boon and a blessing if only the facts are not thereby packed too closely for due apprehension. The difference might almost be indicated in terms of art as being that which separates the work of an impressionist from that of a Pre-Raphaelite. Broad effects probably leave a more lasting impression than can be obtained from consideration of a picture crowded with detail. To convey the sense of proportion there must be some marks of individuality and we venture to think that this is lost to a great extent when personal experience is kept in the background. It is difficult to predict how a student will be affected by any text-book but it is safe to assert that in general he prefers to have some indication of the relative importance of the facts with which each page is crowded. *It is not wholesome diet* when all materials are presented as though they had the same monotonous nutritive value.

Having thus relieved our mind of the thoughts suggested by an obvious strained desire for conciseness of expression it remains to consider the work before us in greater detail. It is divided into three sections, termed respectively "Principles of Medicine," "Practical Medicine," and "Clinical Methods of *Examination*." The first section deals with the classification of diseases and with their etiology; then some general pathological conditions are considered, such as disturbances of nutrition and metabolism, changes in the blood and circulation, fever, inflammation, and regeneration, while some 15 pages are devoted to the bacteria of disease, including infection, antagonism of infection, and immunity. This section has very marked merits in presenting in form convenient for reference many of the pathological processes which are constantly recurring in the study of diseases. The student will rise from its perusal feeling that there is a distinct connexion between his pathological work and the broad subject of medicine. It is a distinct advantage to have this grouping of material in the prefatory pages where it can indicate the relationship of the various diseases more helpfully than if the same information had been scattered through the volume under the names of the different diseases.

The second part, on *Practical Medicine*, is naturally the greater portion of the volume. It commences with the infectious fevers, typhoid fever being assigned the first place. In the 30 pages devoted to this a singularly complete account is rendered—in particular we may direct attention to the section dealing with the special symptoms and complications which leaves but little to be desired. Typhus fever is not so favoured and betrays in an aggravating fashion the desire for conciseness and simplicity; in one paragraph we have noted three sentences consisting of only four or five words each, and the effect is somewhat electrifying. The other infectious diseases follow in due order, the "fourth disease" (rubella scarlatinosa) being placed after German measles and acute rheumatism, and gonorrhœal infection being placed between erysipelas and syphilis. The subject of tuberculosis is dealt with in great detail, all forms of tuberculosis being considered in consecutive pages instead of being scattered about in different parts of the volume under the heading of the special organ affected. We note with pleasure that although due importance is assigned to the infectious nature of tuberculosis the author recognises the existence of individual peculiarities which are to be regarded as indications of vulnerability. Since the recognition of the tubercle bacillus many writers have appeared to ignore those individual characteristics which to a large extent account for the frequency of the tuberculous family history. To avoid repetition the treatment of tuberculosis is considered in general terms at the end of the section, the special symptoms—*e.g.*, fever, sweating, cough, hæmoptysis, and diarrhœa—being dealt with separately.

Frequent exceptions to this admirable plan have been necessitated and short paragraphs on the treatment of tuberculosis of special organs sometimes occur rather unexpectedly.

A short section is devoted to infectious diseases common to man and the lower animals, which includes glanders, hydrophobia, anthrax, and similar diseases, and after this the affections due to animal parasites are considered. No exception can be taken to the assignment of the first place to malaria but it may cause some surprise to find it followed by dysentery, small-pox, vaccination, and chicken-pox, which in turn are succeeded by the diseases caused by nematodes and by cestodes. Splenic affections are dismissed in a summary fashion and those of the thyroid introduce a curious instance of Americanism in the term "goiter." While the account of valvular diseases of the heart is in general commendable we note that students are told that in aortic incompetency a double to-and-fro murmur can sometimes be heard by auscultation over the carotid and femoral arteries; there is no explanation of the mode in which the systolic murmur is produced (it is surely merely the result of undue pressure of the stethoscope), and to hear a diastolic murmur in the femoral would scarcely suggest aortic regurgitation to most clinical observers. The section relating to the respiratory system does not call for any special comment beyond mention of the treatment of hæmoptysis by placing elastic bands or other modes of constriction round two or three of the extremities and of the brevity and uncertainty of the directions for the treatment of spasmodic asthma.

Much space is saved in the section on Diseases of the Digestive System by the frequent employment of cross references, but some conditions—e.g., la perlèche, Riga's disease, glossitis desiccans, and hemiglossitis—are so briefly mentioned that but little information is conveyed. On the other hand, appendicitis receives lengthy consideration, the diagnostic indications being very carefully detailed and the directions for the determination of the resort to operative measures are discussed with sufficient caution and the dangers of procrastination are duly enforced. In the description of enteroptosis (Glénard's disease) the treatment is dismissed in five lines and there is no mention of any question of surgical measures. The facts connected with the occurrence of jaundice and of ascites are usefully grouped in separate sections, although it is admitted tha they are merely symptoms and not diseases. The description of chronic interstitial nephritis is not quite in accordance with the classification generally adopted in this country inasmuch as three forms are described: (1) as a primary affection; (2) as a manifestation of arterio-sclerosis; and (3) as a late result of chronic diffuse nephritis, in which the parenchymatous nephritis passes over into the interstitial form. Constitutional diseases and intoxications form the subjects of two brief sections and then the diseases of the nervous system are detailed in a long section of great inequality. So far as we have been able to judge no important condition is overlooked but many are so cramped for space that for all practical purposes they might almost have been omitted; this is especially noticeable in connexion with the accounts of the different forms of spastic paralysis and the various conditions grouped under the heading of "choreoid affections." The accounts of conditions of more common occurrence, such as locomotor ataxy and cerebral hæmorrhage, are free from this fault of undue compression and may be read with pleasure and profit.

The third part, which treats of Clinical Methods of Examination in some 40 pages, deals with the chemical and microscopical examinations which are applicable to clinical study and an attempt is made to include information which may be serviceable to the general practitioner without the use of apparatus to be found only in a fully equipped laboratory. This limitation permits the inclusion of much that will be found to be useful but it is evident that it only allows the fringe of the subject to be touched upon.

From the foregoing review it will be evident that this book contains many features which should render it acceptable to the rising generation of medical students. This conviction has prompted the indication of sundry blemishes which appear to be capable of removal with the issue of a new edition, for which there will probably be an early call. While deprecating an undue straining after brevity, we welcome and appreciate the general skill with which the author has eliminated many theories of little value and many discussions which would weary without affording any real advance of knowledge. The plates and wood engravings are adequate without being in any sense remarkable; the temperature charts and small engravings are more satisfactory than many of the more pretentious plates.

On Carbohydrate Metabolism (A Course of Advanced Lectures in Physiology delivered at the University of London, May, 1905, with an Appendix on the Assimilation of Carbohydrate into Proteid and Fat; followed by the Fundamental Principles and the Treatment of Diabetes dialectically considered). By F. W. PAVY, M.D. Lond., LL.D., F.R.S., Honorary Physician to King Edward VII. Hospital; Consulting Physician to Guy's Hospital. London: J. and A. Churchill. 1906. Pp. 138. Price 6*s.* net.

Dr. Pavy's writings on the subject of carbohydrate metabolism and diabetes are always of interest and importance to students of this fascinating problem, embodying as they do the views of one who has devoted his life's work to this branch of physiology and pathology and who has pursued the path of investigation with exemplary diligence and pertinacity. The little book before us sets forth the mature conclusions to which he has come. It is divided into three parts, a series of lectures—here amalgamated—extending over 74 pages, and an appendix divided into two parts dealing respectively with the assimilation of carbohydrate and with the nature and treatment of diabetes.

The author's antagonism to the theory of glycogenesis as usually held is well known; he here dismisses this view in a few words and passes on to enunciate his own position. Put shortly, this is that so far from the passage of absorbed carbohydrate from the intestine to the liver being a normal process, it is only when an undue amount of sugar is present in the alimentary canal that it reaches the portal system at all. Normally such material is taken up by the cells of the intestinal villi and then disappears from view. The mechanism by which this phenomenon occurs is as follows. The epithelium of the villi assimilates the sugar present in the intestine and converts it into its own protoplasm. We have here not a passive process of osmosis but a vital assimilative action. The epithelial cells then re-excrete the carbohydrate material into the cavity of the villi and there it is taken up by the lymphocytes which abound in this position and is again assimilated—that is to say, it becomes an integral part of the living substance of the lymphocytes just as it did of the epithelial cells. Subsequently the lymphocytes, which are carried into the thoracic duct and thence into the veins, undergo spontaneous disintegration (autolysis) and set free in the blood the actual materials which are used by the living cells for their nutrition. It is owing to the fact that the carbohydrate matter traverses the blood in the form of an organic compound—attached to the side-chains of the protoplasm of the lymphocytes—that we fail to find any considerable quantity of it circulating in a free state. Whenever such free sugar passes into the blood it is at once eliminated in the urine. After a sufficient quantity of carbohydrate food, however, some sugar does enter the blood and if there is enough of this to overtax the activity of the liver in removing it then alimentary glycosuria results. It may be asked how on the theory before us sugar can reach the blood at all. If the epithelial cells re-excrete the absorbed carbohydrate as sugar then, so far as the theory goes, we might as well look on the process as one of mere osmosis; the result will be the same. Yet, to account for any absorption of sugar into the portal system, as admittedly occurs, either this must be the process at work or some osmosis must occur alongside of the vital action. Further, since peptone disappears from view as completely as sugar in the process of absorption it would appear probable—and Dr. Pavy seems inclined to adopt the hypothesis—that the lymphocytes may also be the carriers of proteid to the tissues. But if they are the sole means of conveyance of both proteid and carbohydrate material to the whole of the body an immense number of these minute cells must come into action at each meal and it seems doubtful whether the total number of lymphocytes available is sufficient for the task. Dr. Pavy, indeed, speaks of them as multiplying in the villi on the absorbed food just as bacilli do upon a nutrient medium. There does not appear to be at present any conclusive evidence of this enormous proliferation of lymphocytes in the villi, although these structures may be seen to be filled with lymphocytes in digestion.

Passing from the physiological to the pathological side of the subject we may admit that the theory before us is capable of explaining many of the features of alimentary diabetes but it seems to fail when applied to the composite form of the disease. Dr. Pavy holds that the sugar existing in the blood as the result of an alimentary defect acts as a poison to the tissues and ultimately causes them to break down into the very substance which is irritating them. This is so far opposed to known analogies in the action of poisons that overwhelming evidence will be needed to render such a hypothesis acceptable. In the realm of treatment Dr. Pavy is an advocate of a rigorous non-carbohydrate diet in cases of diabetes. In this we think that he is opposed to the views generally prevalent at the present day but in default of more certain knowledge it is impossible to be sure which is right.

We have not space here to discuss other interesting points dealt with in this book, such as the elimination of various sugars from the blood, the formation of fat from carbohydrate within the epithelium of the villi, the amount of glyco-proteid material existing in different proteid substances, the use of potato (here condemned) as a food for diabetics, or the comparative importance of sugar and of acetone bodies in the urine.

The book is full of material for discussion and will well repay perusal. Perhaps a little more care might with advantage have been taken in preparing the spoken lectures for publication, as here and there the English sets a bad example to younger writers. Such a phrase, for example, as "a faulty tissue breaking down" if paraphrased according to ordinary rules of grammar can only mean the katabolism of an unhealthy tissue, whereas the context shows that it is intended to mean an abnormal process of katabolism of tissue. Other examples might be quoted.

A Text-book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, M.A., M.D. Aberd. Fourth edition. Illustrated with 52 engravings. London: Rebman, Limited. 1906. Pp. 752. Price 17*s.* 6*d.* net.

Professor Cushny states that the issue of a new edition of this text-book has been necessitated by the recent revision of the United States Pharmacopœia and that he has taken this opportunity to record such advances in the subjects of pharmacology and therapeutics as have been made in the last two years. While he asserts that the changes in the text are too numerous to be detailed he directs attention to the inclusion of the new features brought out by Embley and others in regard to the action of chloroform and its dangers and to the change in the views held as to the effects of wood-alcohol in man.

In reviewing the third edition of this book in THE LANCET of July 25th, 1903, p. 230, we mentioned that the author scarcely did justice to the vinous ethers contained in old and genuine brandy and we also drew attention to his sweeping assertion concerning carbolic acid that "its use as a remedy in constitutional diseases is entirely obsolete." The latter statement remains unchanged at p. 398, while, although the views of the effects of wood-alcohol are mentioned, these do not touch the point which we had in mind. It must be remembered, however, that Professor Cushny aims at presenting his subject from the experimental standpoint and that he endeavours to make the results of the laboratory investigator the basis of almost every statement, so that if judged purely from the experimental standpoint the work must be regarded as being extremely satisfactory. In professional work students will soon discover that by using it as a guide to therapeutics they have not received quite so much help as they anticipated and that they have still to seek in experience much that should be serviceable in the treatment of disease. On the other hand, they will realise that in having studied the subject of pharmacology as here set forth they have been pursuing a development of physiological investigation which has left comparatively little to unlearn. Professor Cushny's book should be extremely useful to all students preparing for examinations in pharmacology and therapeutics, both for its general accuracy and for the pleasant and easy diction adopted throughout.

LIBRARY TABLE.

The American Mosquito Extermination Society. Year-book for 1904-05. Edited by H. C. WEEKS and E. H. HALL, secretaries. New York. 1906. Pp. 116.—This volume of the proceedings of the Second Anti-Mosquito Convention held in the city of New York in December, 1904, contains much information concerning the life-history and habits of the culex, the anopheles, and the stegomyia. The address given by Dr. Quitman Kohnke is particularly lucid. As originally delivered it was illustrated by views showing the live larvæ in water and the effect of oil upon them, thus demonstrating one of the methods of destroying these pests. The relations of the mosquito to malaria and yellow fever are portrayed and the author states that an epidemic of either of these affections is a proof of man's stubborn unwillingness to use the power of intelligent thought in prophylaxis. The volume is illustrated by some excellent plates. Dr. J. B. Smith's address on mosquito extermination in Jersey will also repay perusal.

Traitement des Maladies du Cœur, de la Goutte, et du Rhumatisme à Bourbon-Lancy. (The Treatment of Diseases of the Heart, of Gout, and of Rheumatism at Bourbon-Lancy.) By Dr. A. PIATOT. Macon: Imprimerie Protat Frères. 1905. Pp. 170.—In writing this small work Dr. Piatot's intention has been to bring before the medical profession the nature of the special thermal treatment carried out at Bourbon-Lancy. The therapeutic value of the waters at this health resort is discussed and it is shown how the beneficial effects of the waters are added to by means of regulating the diet and by the climatic advantages of the situation in which Bourbon-Lancy is placed. The diseases to which this particular form of treatment is particularly applicable are—rheumatism, especially in neurotic and excitable subjects; rheumatism occurring in patients who have suffered from rickets; osteo-arthritis; rheumatic affections of the valves of the heart, especially in cases where compensation is commencing to be established; and functional disorders of the heart. The details of the treatment are well explained and a perusal of the book will at once give a good [illegible] as to the *methods* adopted at

Bourbon-Lancy and the satisfactory results which are obtained in the pathological conditions mentioned above.

Nursing in the Acute Infectious Fevers. By GEORGE P. PAUL, M.D., Assistant Visiting Physician and Adjunct Radiographer to the Samaritan Hospital at Troy, New York. Illustrated. London and Philadelphia: W. B. Saunders Company. 1906. Pp. 200. Price 4s. net.—The object of the author in this book is to place before nurses a volume which will be of practical value. The subject matter is written for the nurse alone. Great pains have been taken in preparing the sections on the care and management of each disease. The book is divided into three parts. The first part treats of fever in its general aspects, which is necessary as a basis for the study of each individual fever; in the second part each fever in discussed as to its cause, signs and symptoms, course, prognosis, care, and management; and the third part deals with practical procedures and information necessary in the management of the foregoing diseases or of value in understanding the nature and course of such diseases. Charts and illustrations are included. There are some points open to criticism—e.g., in the chapter on the Reduction of Fever we think that the directions for the administration of cold packs might have been made more explicit. Again, we do not think that the author can mean that the eruption in typhoid fever always occurs at the end of the first week, but he states this to be the case. Chapter XXIII., which deals with Bacteria, might very well have been omitted. On the whole the book is an excellent one and will be of value to those for whom it is intended. It is well arranged, the text is clear and full, and the illustrations are good.

On the Nature, Causes, Variety, and Treatment of Bodily Deformities: in a Series of Lectures delivered at the City Orthopædic Hospital in the year 1852 and subsequently. By the late E. J. CHANCE, F.R.C.S. Eng., Surgeon to the City Orthopædic Hospital. With illustrations drawn on wood by the author from cases in his own practice. Edited by JOHN POLAND, F.R.C.S. Eng., Surgeon to the City Orthopædic Hospital. Second edition. In two vols. Vol. I. London: Smith, Elder, and Co. 1905. Pp. xvi.–315. Price 6s. net.—In reviewing the first edition of this book in 1862 we wrote: "Indeed a book that has so little of the narrow spirit of the specialist in it is rarely seen. It could only have been produced by a skilful anatomist, an acute physiologist, a sagacious surgeon, and—the numerous life-like illustrations by the author's hand attest—an accomplished artist." The editor of this, the second, edition has not attempted to alter the characteristic style of the lectures, he has merely omitted some obsolete tables and notes. Recent investigations have been embodied in the form of copious editorial notes. The author's original drawings and notes of cases have been added to by the editor, so that the whole work includes drawings and clinical cases of deformities taken by the author and the editor from their own hospital and private practices. The volume contains an introduction and six lectures on the form of the human body and on congenital and acquired deformities. Mr. Chance's book is well known; the editor of the second edition is to be congratulated on its production and on having been allowed the opportunity of bringing the work up to present-day requirements.

KELSO COTTAGE HOSPITAL.—The arrangements for the establishment of a cottage hospital for the Kelso district are being carried through with commendable expedition and with every prospect of a highly satisfactory issue. The deed of constitution, which will provide a practical working arrangement between the old Kelso Dispensary and the new hospital, has been practically completed. It is intended that the funds derived from the bazaar shall provide all that is requisite in the way of buildings and equipment, while the funds of the dispensary will be made available for the current expenses of the institution and for the relief of

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

(1) "TABLOID" SODIUM CITRATE; (2) "TABLOID" MISTURA ALBA; AND (3) "TABLOID" OPHTHALMIC ARGYROL AND "SOLOID" ARGYROL.

(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

(1) THE addition of sodium citrate to cow's milk, as is well known, increases its digestibility and the salt is regarded to form with the caseinogen of the milk a sodium compound which is less dense and more readily absorbed than the corresponding calcium compound present in normal cow's milk. Milk may thus be modified in an important dietetic direction by merely adding to it sodium citrate, and for this purpose a tabloid is convenient, being first dissolved in a little water and the solution added to the milk in the proportion of two grains of citrate to each fluid ounce. (2) Mistura alba is recognised as a useful formula and the ingredients in the tabloid are commendably free from impurities. Each tabloid contains 15 grains of magnesium sulphate, 2½ grains of magnesium carbonate, and $\frac{1}{16}$ minim of oil of peppermint. (3) Argyrol is described as a soluble organic silver compound which is antiseptic, non-irritating, and non-toxic in the strengths usually employed. Further, it is stated that argyrol does not precipitate albumin, an important property which enables it to penetrate the tissues. Solutions of from 5 to 50 per cent. are used in purulent and gonorrhœal ophthalmia and in lacrymal obstruction. It is also used as an injection (5 per cent.) in gonococcal urethritis and as a rectal injection (1 per cent.) in mucous and ulcerative colitis.

COCOA AND COFFEE WITH MILK.

(FUSSELL AND CO., 4, MONUMENT STREET, LONDON, E.C.)

These preparations are evidently carefully made and from very good materials. They afford a very convenient means of extemporising a palatable, nutritious, and mildly stimulating beverage. They are stated to be prepared from full cream milk and this statement receives support from the results of our analysis. The fat, for example, amounted to 12·11 per cent. in the chocolate and milk preparation and to 11·14 per cent. in the cocoa and condensed milk preparation. Of course, part of this fat is due to cocoa but from the proportion of volatile fatty acids yielded it is clear that a large proportion of it is milk fat. The alkaloid caffeine was extracted from the coffee preparation in distinct quantity.

MARGARINE (IRIS BRAND).

(VERSCHURE AND ZOON, ROTTERDAM. LONDON AGENCY: 5, WATER-LANE, GREAT TOWER STREET, E.C.)

Well-made margarine is a perfectly wholesome fat food and it is a pity that a prejudice has arisen against it on account of its being so extensively used as an adulterant of butter. The Iris brand has a quite satisfactory flavour which is barely distinguishable from that of genuine mild fresh butter. It is stated that it is churned from rich milk produced on Dutch farms. Our analysis showed 84·52 per cent. of fat, 1 65 per cent. of curd, 2·48 per cent. of salt, and 11·35 per cent. of moisture. So long as preparations of this class are honestly described they may be recommended as a source of excellent and palatable fat food.

OVALTINE.

(A. WANDER, 24, QUEEN VICTORIA STREET, LONDON, E.C.)

This is a satisfactory preparation, made, it is stated, with malt extract, fresh eggs, milk, and cocoa. In addition, as was ascertained in our experiments, it contains lecithin, the peculiar fatty phosphorus constituent found in the yelk of an egg. The preparation has a pleasant flavour of malt and of cocoa. There can be no doubt of its value as a special food and, moreover, it makes a very palatable beverage. It contains in excellent proportion materials which are available for the repair of tissue.

WORLDS' ANTISEPTIC AMMONIA.

(WORLDS & Co., SEYMOUR HOUSE, 17, WATERLOO-PLACE, PALL MALL, LONDON, S.W.)

Ammonia water when judiciously used affords an agreeable addition to the bath, while it is useful also for sundry other domestic purposes. This preparation shows an excellent strength, is clear, and is free from organic impurities. It contains, according to our analysis, a useful adjunct in the form of a well-known and mild antiseptic salt.

"HOUSE OF LORDS" PURE BARLEY MALT POT STILL WHISKY.

(JAMES SAUNDERS AND Co., LIMITED, 15, CHARLOTTE STREET, FITZROY-SQUARE, LONDON, W.)

We have satisfied ourselves both by analysis and by the judgment of the palate that this whisky is genuinely described as an all-malt pot-still whisky. In spite of nothing but malt having been used and the distillation having been conducted in a pot-still the flavour is soft and smooth, a result which can only be obtained in the case of an all-malt spirit by maturing it in cask. The total secondary products amounted to 400 grammes per hectolitre of absolute alcohol present, of which the ethers amounted to 125. This is evidently a well-matured genuine malt whisky.

(1) ST. TIMOTHY WINE; AND (2) "VOTRIX" PURE GRAPE-JUICE CORDIAL.

(THE VINE PRODUCTS COMPANY, LIMITED, 74, GREAT TOWER-STREET, LONDON, E.C.)

St. Timothy wine is said to be made from pure unadulterated imported grape-juice. Our analysis of the wine gave the following results: alcohol, by weight 13·92 per cent., by volume 17·17 per cent., equal to proof spirit 30·09 per cent.; extractives, 9·56 per cent.; sugar, 7·41 per cent.; mineral matter, 0·54 per cent.; volatile acidity reckoned as acetic acid, 0·15 per cent.; fixed acidity reckoned as tartaric acid, 0·36 per cent.; and glycerine, 0·28 per cent. The wine is retailed at 1s. per bottle. We are sure that the wine is correctly described as being made from grape-juice but we cannot say that we like its flavour. The æsthetic qualities of the vintage wine are sadly wanting. There is no reason that we can see why it should not be wholesome. 2. Votrix grape-juice cordial contains about 60 per cent. of grape sugar and 2·2 per cent. of acid reckoned as tartaric acid. It contains a trace of alcohol and is preserved with a small quantity of sulphurous acid which, so long as it is not present in an excessive quantity, is unobjectionable. The flavour is good and the juice acts as a mild laxative. Diluted with effervescing water it makes a pleasant and refreshing, slightly acid, drink.

Looking Back.

FROM

THE LANCET, SATURDAY, June 7th, 1828.

MEDICAL ASSISTANTS.

To the Editor of THE LANCET.

SIR,—As a general practitioner, sincerely desirous of raising the condition of assistants, I was much chagrined, on calling some little time past at the Lancet Office, to find so very few signatures attached to the list, you were so kind as to allow to be left there; and most unwillingly was I compelled to think, that if assistants were so negligent of their own interests, as not to wish to make an effort to emancipate themselves from their present miserable and degraded situation, it was quite impossible for other persons, however ardent they might be in their desires, to render them any assistance. Under this impression, I gave up the idea of stirring further in the affair. A casual interview yesterday with the writer of one of the former letters on the subject, which appeared in your truly valuable publication, leads me to imagine I was wrong in the opinion I then formed. I find from him, that many more names would have been signed, had not an idea prevailed, that the original mover had abandoned the cause; and it seems many imagined the list at Callow and Wilson's, and that at your office, were left by different persons. Feeling convinced, Sir, there are a number of spirited and well-informed young men, assistants, who would gladly join in any scheme by which their respectability, and, consequently, their comfort, might be increased, (most assuredly it will not be so before needed,) I now take the liberty of throwing myself on your generosity for an insertion of this letter, and that by some remarks of your own, you will call the attention of those interested, to the subject of its contents. I would suggest, that those who have already signed the list, should meet together, for which purpose I shall be most happy to offer the use of my house, (enclosed you have my card,) we could then consider the propriety of a public meeting. Let there be but a beginning made, and I have no doubt, with your able assistance, we shall find plenty of supporters; and that before five years, an assistant, instead of being as he now is, little better paid than a livery servant, and sometimes less thought of, will hold that rank in society his education entitles him to, and his services so richly deserve. You have already, Sir, done much good for the profession; and I rest confident, that when so large a field is opened for your benevolent exertions, as that afforded by the unfortunate condition of assistants generally, you will not cease to give your powerful aid, until you have attained the much-wished for, and long necessary reform. You are at liberty to give my address to any gentleman desiring to aid the cause.*

I have the honour to be, Sir,
Your obedient Servant,
L.

Upper Seymour Street, Portman Square, May 18.

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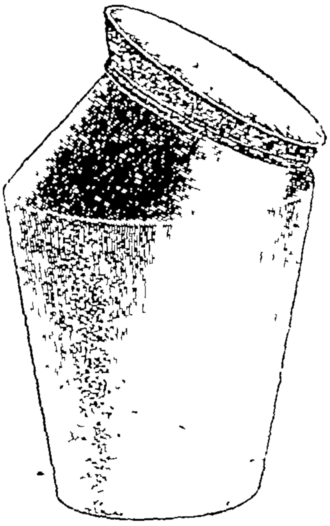
* The address of this gentleman is left at our Office.

New Inventions.

A NEW CHINA SICK FEEDER.



THE illustration represents a new form of china sick feeder which Messrs. Adderleys, Limited, of Longton, Staffordshire, have made at my suggestion. It possesses the following advantages over the glass feeder. 1. It presents a superior appearance. 2. It is more easily cleaned and looks cleaner when it is washed. This is all the more apparent after the use of some such liquid as milk. 3. Its surface is nicer to the touch and it is not scratched like the surface of a glass feeder which has been in use for a few weeks. 4. It will stand high temperatures better than a glass feeder. I also believe that it is cheaper than the glass feeder. The shape of this feeder enables it to be more easily washed and kept clean than the old-fashioned china feeder with a spout. Its use is, moreover, free from the great difficulty which some persons have in drinking out of a spout. I am making no profit, either direct or indirect, out of my suggestion. The feeder may, however, be of some interest to my medical friends.

FRANK SHUFFLEBOTHAM.

Newcastle-under-Lyme.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

MONDAY, MAY 28TH.

THE General Medical Council resumed on Monday, Dr. DONALD MACALISTER, the President, being in the chair.

British Medical Association and Direct Representation.

Mr. BROWN called attention to the scheme adopted by the British Medical Association in regard to the nomination and election of Direct Representatives to the Council and asked the President whether the pledge exacted by the Association was not calculated to encroach on the privileges of the Council.

The PRESIDENT, in reply, said: The general question whether a certain action is calculated to encroach on the privileges of the Council is one which the President cannot determine: it is a question for the Council itself. Having regard, however, to the observations of the Lords Justices in Allinson's appeal I think it proper to state that, in my opinion, a member of the Council pledged to follow the directions of an association, or belonging to an association giving such directions, would be precluded from taking any part in judicial inquiries before the Council in which, as informants or otherwise, the association was concerned.

Pupilage under Practitioners.

Mr. BROWN moved that the following notice of motion be referred to the Education Committee for consideration and report to the Council:—

> That a period of pupilage of not less than 12 months with a registered medical practitioner officially recognised for the purpose by one of the licensing bodies should be regarded as equivalent to a period of six months of the ordinary medical curriculum.

He said he found that the motion carried by the Council in 1890 in order to meet the demand that pupilage or tuition with a medical practitioner should be recognised as part of the candidate's general education had proved a dead letter because no candidate had brought forward a certificate to any of the corporations and asked to have six months' training or work with a practitioner recognised as part of the curriculum. His own impression was that the best time for a student to have this training was before he entered hospital practice.

Mr. JACKSON seconded the motion.

Mr. MORRIS said that if Mr. Brown proposed that six months of the last year of a five years' curriculum should be spent in this way he might have had some supporters but the idea of a five years' curriculum as things were at present was a pure fiction. There had never been a five years' curriculum of strictly medical studies. In his opinion it had never been more than four years and to take six months off would be a deplorable step.

Sir THOMAS MYLES said that as far as Ireland was concerned there was certainly a five years' curriculum. No one took out the preliminary science studies other than in a medical school. He would oppose the motion because it was too much to assume that a medical practitioner in the hurry and rush of his daily work was able to impart tuition to students.

Dr. LINDSAY STEVEN asked whether any registered medical practitioner was recognised for this purpose by any one of the licensing bodies. He had never heard of such a thing.

Mr. BROWN said he was sure that there were many practitioners who would, and could, give valuable training to students by initiating them into the arts of prescribing and dispensing medicines.

The motion was rejected by a large majority.

Petition of the British Optical Association.

The PRESIDENT asked the leave of the Council to have the memorandum transmitted to the Lord President of the Privy Council with regard to the petition of the British Optical Association entered on the minutes.

This was agreed to.

The memorandum set out the history of ophthalmological science in this country, thereby disposing of the pretention of the British Optical Association that "the trade or profession of a practical optician *includes and always has included* the practice of the science of measuring the refraction of the eye and the adaptation of lenses for aiding defective sight which forms a most important part of the practical optician's duty and requires special knowledge and training for rendering *proficient those who profess to adapt lenses for aiding defective sight*." The whole of this statement, and especially the words in italics, are shown by the memorandum to be devoid of any real foundation; the statement and the claim which it implies are alike contradicted by the facts set out.

Having traced our scientific knowledge of refraction and of the treatment of its errors to the labours and discoveries of Young, Whewell, Airy, and especially Helmholtz and Donders, the memorandum points out that the admission by the petitioners in Clause 7 that "where defective vision is due to other than optical conditions it should be treated by a duly qualified medical practitioner" is fatal to the rest of their contention; not only because, as a matter of fact, optical defects and diseased conditions constantly overlap and complicate each other but also because the former cannot be certainly recognised or the latter certainly excluded by any but a medical practitioner.

From this point the memorandum runs as follows:—

> In order that certain errors of refraction may be accurately measured it is often necessary to produce temporary paralysis of the accommodation muscles by the careful use of atropine or some other poisonous drug. To intrust the employment of these poisons to opticians would be to endanger the public safety. Yet without their use it is impossible to fulfil "the function of dealing with the improvement of human vision so far as optical aids are necessary and applicable," which function the petitioners propose to assume.
>
> On the other hand, defects of vision that can to some extent be counteracted by the use of spectacles are often associated with diseases of the eye which cannot be detected or treated by the means at the optician's disposal. Weakness or error of sight is, moreover, in many cases but the initial symptom of grave disease affecting the nervous system or the body in general. Failure on the part of the optician to recognise such local or general disease would inevitably result from his lack of medical and surgical knowledge; and the consequences of his failure might be disastrous to those who, in ignorance of his limitations, had placed their trust in his powers of "sight testing."
>
> The foregoing considerations apply equally to the Bill and the petition, both of which are demands for exclusive privileges to be conferred upon persons who have no sort of claim to them, and who would be likely to use them to the prejudice of the public. A desire on the part of makers and sellers of spectacles to know all that can be learnt about the applications of their merchandise is laudable, and for this purpose the writings of medical men are freely open to them. But privileges which would hinder the village watchmaker from keeping a selection of "spectacles to suit all sights," or even from styling himself "watchmaker and optician," would be inconvenient to large sections of the population. The knowledge necessary to distinguish purely "optical" defects of the eye, if such there be, from conditions bordering upon, or passing into, disease can only be attained by a complete medical education; and the grant of "sight-testing" diplomas to persons who are not medically educated and who, as we already see abundantly, would be likely to seek to use them as instruments of trade advertisements could hardly fail to lead to disastrous results. The persons so furnished with diplomas would in many cases, to use the words of Donders, be "rendered rash by ignorance" and would be certain to transgress the wholly unpractical limitations laid down in the petition and in the Bill; while the public would be deceived by the grant of legal privileges and would be likely to believe that those possessing them were really conversant with ophthalmology.
>
> It remains to mention that an argument in support of the Bill has been founded upon the supposed analogy furnished by the Pharmacy Acts, but this argument will not bear investigation. The pharmacist deals with a great range and variety of raw materials and of preparations, many of which in unskilful hands would be extremely dangerous to life. The "optician" deals only with lenses, few in number, simple in construction, and harmless in themselves. His shop contains no sources of peril against which the public may rightly ask to be protected. Moreover, in regard to bodily infirmities the pharmacist's duty is limited to the supply of preparations asked for by customers, or to the accurate dispensing of the prescriptions of qualified medical practitioners. He exceeds his duty when he himself undertakes to diagnose and to prescribe for even the simpler departures from health. The optician has at present the analogous functions of making and selling the mechanical and optical appliances which the purchaser may seek or the ophthalmic surgeon may prescribe. To confer on him the privilege of himself prescribing for and treating patients suffering from disorders of the eye would be to sanction the creation of an inferior and purely commercial order of medical practitioners exempted from the training and the disciplinary restraints which the Medical Acts impose.

Society of Apothecaries.

On the motion of Sir HUGH BEEVOR, seconded by Sir JOHN WILLIAMS, the following communication, referred to the Council by the Executive Committee in regard to a draft Bill promoted by the Society of Apothecaries of London, was received and entered on the minutes:—

17, Wimpole-street, Cavendish-square, W., March 30th, 1906.

DEAR SIR,—The Society of Apothecaries desire to bring the draft of a Bill for amending the title of L.S.A. to the notice of the Medical Council and for the expression of their opinion should such be their desire.

I am, yours truly,

To the Registrar.

HUGH R. BEEVOR.

"An Act to vary the diploma or title of Licentiates of the Society of Apothecaries of London.

Whereas since the 30th day of June, 1887, every person applying to the Society of Apothecaries of London for its licence to practise as an apothecary has been required to pass a qualifying examination in medicine, surgery, and midwifery duly held by the said Society of Apothecaries with the assistance of examiners appointed by the General Council of Medical Education and Registration of the United Kingdom (hereinafter referred to as the General Council) in accordance with the provisions of the Medical Act, 1886, which came into operation on the date aforesaid.

And whereas the diploma or title of 'Licentiate of the Society of Apothecaries, London,' has heretofore been inserted in the Register kept under the Medical Acts (hereinafter referred to as the Medical Register) as the qualification of a registered medical practitioner holding the said licence of the said Society of Apothecaries.

And whereas it is desirable that the terms of the diploma or title granted by the said Society of Apothecaries to its licentiates who have passed such qualifying examination as aforesaid shall clearly indicate that it is a qualification in both medicine and surgery.

Be it therefore enacted, &c.:—

This Act may be cited as the 'Apothecaries Act, 1906.'

It shall be lawful for the said Society of Apothecaries to grant to every person who has since the 30th day of June, 1887, passed or shall hereafter pass a qualifying examination in medicine, surgery, and midwifery duly held by the said Society of Apothecaries in combination with another medical corporation or a university or with the assistance of examiners appointed by the General Council in accordance with the requirements of the Medical Act, 1886, the diploma or title of 'Licentiate in Medicine and Surgery of the Society of Apothecaries, London.'

The said diploma or title of 'Licentiate in Medicine and Surgery of the Society of Apothecaries, London,' shall be deemed to be added to the qualifications in Schedule (A) to the Medical Act, 1858, and every person possessed of such diploma or title shall be entitled to have the same entered in the Medical Register as his or her qualification or additional qualification for registration under the Medical Acts."

Sir HUGH BEEVOR moved:

That this Council has no objection to the statutory definition (i.e., in an Act of Parliament) of the registrable title L.S.A., whereby "Surgery" as well as "Medicine" shall be connoted.

He said that by the Bill the Society of Apothecaries had drafted it was intended clearly to indicate that the title was a title of qualification in medicine and surgery. It was a matter of propriety as well as courtesy that the Society should bring this Bill before the Council and his motion was one that it was quite proper and courteous for the Council to consider, having regard to the petition of a large number of petitioners in the previous session.

Sir THOMAS MYLES seconded the motion.

Dr. ADYE-CURRAN suggested that the Apothecaries' Hall of Ireland should be included in the scope of the Bill.

Sir CHRISTOPHER NIXON agreed with Dr. Adye-Curran.

The PRESIDENT said the Society had taken the only step which was open to it and which had been suggested by the Executive Committee—namely, a proposal to alter the law. The Council had no objection to the word "surgery" appearing in the title, as, in fact, surgery appeared in the actual qualification.

Sir JOHN W. MOORE and Dr. NORMAN MOORE thought that medicine, surgery, and midwifery might all be mentioned.

The motion was agreed to.

Visitation and Inspection of Qualifying Examinations.

The Council took up the adjourned consideration of the proposed Standing Orders relating to the visitation and inspection of qualifying examinations.

The Standing Orders as revised by the Executive Committee and submitted to the Council on Dec. 1st, 1905, were as follows[1]:—

XXIII.—VISITATION AND INSPECTION OF QUALIFYING EXAMINATIONS.

(1) The qualifying examinations of the several licensing bodies in the three divisions of the kingdom shall be visited and inspected on behalf of the Council from time to time as the Council shall direct.

(2) The visitation shall be conducted by one or more members of the Council deputed as visitors for that purpose; the inspections by one or more inspectors appointed by the Council, but not members thereof.

(3) The cycle of visitations and inspections shall ordinarily extend over three years. Within each of the three years the Universities of one division of the kingdom and the licensing corporations of another division of the kingdom shall be visited and inspected.

(4) The visitor or visitors shall be appointed by the Council at the May session in each year for the ensuing calendar year, and visitors belonging to one division of the kingdom shall be deputed to visit examinations held in another division. Should a visitor so appointed be unable to act, or should no appointment have been made in time for a particular examination, the Executive Committee, or in case of emergency the President, shall appoint a visitor for that turn. All appointments so made shall be reported to the Council at the session next following.

(5) One or more inspectors shall be appointed for the cycle of inspections and for all three divisions of the kingdom. An inspector shall not during his tenure of office act as examiner in any qualifying examination.

(6) A visitor shall receive no remuneration but shall be paid his travelling and hotel expenses.

(7) The remuneration of an inspector shall be at the rate of £200 per annum in addition to his travelling and hotel expenses.

(8) A list of the examinations to be visited and inspected in the ensuing year, with their respective dates, shall be drawn up and circulated among members of the Council before or during the May session, with a request that members will intimate to the President which examination or examinations they are willing to visit.

(9) The President shall give to each visitor and inspector a formal commission in writing under the seal of the Council.

(10) It shall be the duty of inspectors to report to the Council their opinion as to the sufficiency or insufficiency of each examination attended by them. Their reports shall set forth in order all necessary particulars as to the questions proposed in the written, oral, and practical parts of the examination, the cases and the appliances provided for clinical examinations, the arrangements made for invigilation, the method and scale of marking, the standard of knowledge shown by successful candidates, and generally all such details as may be required for adjudicating on the scope and character of the examination.

It shall be the duty of visitors to report, separately from the inspectors, on each examination visited by them, and they shall include in their report such particulars and observations thereon as they deem important for the information of the Council.

(11) Visitors and inspectors shall include in their reports, in the form of a brief diary, a statement of the days and hours at which they were respectively present during the course of the examination, and of the parts or divisions of the examination in progress on each day.

(12) Visitors and inspectors shall be made acquainted with such previous reports on the examinations attended as the Executive Committee or the President may direct, together with the remarks and observations of the licensing bodies and the reports of the Examination Committee thereupon. They shall also be provided with copies of the recommendations of the Council in regard to professional examination, and shall include in their reports a statement of the extent to which these recommendations have been carried out in the case of each examination attended.

(13) The reports of visitors and inspectors when prepared shall be forwarded to the President, who shall cause them to be printed. The final proof copies of the reports, as corrected, shall be signed in writing by the visitors or inspectors, as the case may be, and shall be preserved by the General Registrar as the authoritative copies.

(14) Previous to the meeting of the Council at which the reports of visitors or inspectors are to be considered confidential copies, not exceeding 50 in number, of each report shall be forwarded for consideration to the licensing body to which such report refers, with a request that the body will make such remarks and observations thereon as may be thought necessary and will forward the same with as little delay as possible to the General Registrar.

(15) A confidential copy of each report of the visitors or inspectors, together with the remarks and observations made thereon by the licensing body concerned, shall be supplied, when ready, to each member of the Council.

(16) The Examination Committee shall consider and report to the Council on each report of the visitors or inspectors and shall also at the end of the cycle of visitations and inspections present to the Council a general report on the results and conclusions arrived at.

Dr. MCVAIL had given notice of the following amendment:—

That the Standing Orders as submitted by the Executive Committee be recast so as to embody the following provisions: (1) that the existing system of cycles of inspection and visitation at intervals be discontinued; (2) that inspection and visitation be dealt with under distinct and separate rules; (3) that standing inspectors be appointed who shall conduct inspections where and when required by the Council on the advice of the Examination Committee; (4) that the reports of inspections be henceforth not published in the minutes except by express direction of the Council in any particular case; and (5) that the term "qualifying examination" include any examination held by a qualifying body in any subject or subjects of the medical curriculum.

He said that the Council must under the 1886 Act appoint inspectors. Under the 1858 Act they might appoint visitors. Under the 1886 Act the inspectors must report to the Council and the Council must return the report to the body inspected for observation and then it must be sent to the Privy Council. Under the 1858 Act the visitors might or might not report to the Council. If that report came the Council might adopt, decline, mutilate, or alter it, and send it to the Privy Council in whole or in part. That was the first point with regard to the separation of visitation and inspection. They were not prohibited from sending a visitor, who might be present at an inspection at the same time as the inspector, but that visitor must have no communication with the inspector. That was the first point in which the Standing Orders as he suggested them differed from the Standing Orders hitherto in force. Hitherto the inspections had been intermittent which was not contemplated by the Act. Practical continuity of the work of inspection was implied, not necessarily of every examination or even in any one year, but it was implied that the Council should always have inspectors more or less at work as the Council might require. Hitherto they had appointed an inspector once in ten years for a period of about three years, and they had informed everybody of the time when the inspector would be at the examination. The inspection when completed was over for ten years and the particular body knew that it would not be looked at again for ten years. He [illegible] ant that [illegible] ld that that was not carrying out the intention of the A the examinations were to be inspected when the Council might think fit. The Council, however, was not entitled to think fit that a single inspection of every examination once in ten years was sufficient. The Council ought to make it the duty of the Examination Committee to consider at all times the conditions of the examinations of the different bodies and to advise the Council when inspection should take place. Undoubtedly some bodies would be inspected oftener than others. He did not think the Council had ever given any attention to Subsection 4 of Section 3 of the Act under which an inspector was to receive such remuneration as the General Medical Council might sanction or the Privy Council might determine. That did not mean that the Council was to overpay its inspectors but that it was not to underpay them. Therefore he thought they should have standing inspectors paid according to a scale for the work done by them. The Council had hitherto published the reports, but he held that they had no copyright in them and had no legal right to publish and to sell them. Their right was exhausted when they had received the report and sent it to the Privy Council. Apart from the legal question, he was sure those reports ought not to be published but should be confidential. An inspector whose report was confidential would in all probability deal with it differently from what he would do if he knew it would be published. As to what constituted a qualifying examination, in his view it had practically been determined by the Council in 1890 that it should be an examination in such subjects as guaranteed the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery. The words of the Act were that "a qualifying examination shall be an examination in medicine, surgery, or midwifery, held for the purpose of granting a diploma or diplomas," &c. The Council had hitherto dealt with the final examination as if it alone were the qualifying examination. The medicine, surgery, and midwifery of the Act included whatever subjects the Council regarded as essential to professional study and examination, however they might be divided. The Council must inspect all the subjects which it said belonged to the qualifying examination and hitherto it had not done so.

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[1] These orders were originally published in THE LANCET of Dec. 9th, 1905, p. 1698

The PRESIDENT said that if any of the proposals of Dr. McVail were carried they would be instructions to the Executive Committee and he thought it would be proper to move them one by one. Those that were agreed to would be carried out in detail by the Executive Committee. He might say that the Council had legal opinions on the interpretation of the Act which would be found on pages 238 and 246 of last year's volume of minutes.

On the first amendment it was agreed to leave out the words "and visitation" and the amendment was carried by 12 votes to 9.

The second amendment having been agreed to,

Dr. NORMAN MOORE said with regard to the third proposal that it would be a mistake to have permanent inspectors retained.

Dr. MCVAIL said he did not mean that inspectors should be appointed permanently but that they should always have inspectors, although in some years they might not have any work to do.

Mr. TOMES thought the phrase "on the advice of the Examination Committee" ought to be omitted.

After further discussion the amendment was agreed to in the following form:

> That inspectors be appointed for definite periods who shall conduct inspections of the qualifying examinations where and when required by the Council.

It was resolved, on the motion of Dr. MCVAIL, seconded by Sir JOHN W. MOORE, to add another amendment, viz:

> It shall be the duty of the Examination Committee to advise the Council as to the time and place of inspections.

On the fourth amendment,

Dr. NORMAN MOORE said this amendment would be a grave mistake. The inspector who would make a different report if he thought it was to be kept secret ought never to be appointed. The more publicity they gave to their proceedings in connexion with education the more useful they were likely to be to the public.

Sir CHRISTOPHER NIXON said they were bound to lay those views on the examinations before the profession at large.

Dr. BRUCE remarked that there was another objection. He should not like to have to decide what report should be published and what report should remain confidential.

The PRESIDENT wished to point out that the Council never obtained any copyright in those matters and the question of copyright did not arise.

Dr. MCVAIL withdrew his amendment.

On the fifth proposal put forward by Dr. MCVAIL,

The PRESIDENT said they must not by a definition of their own go behind the definition of the Act of Parliament. It was perfectly possible to visit and to inspect other examinations, but nothing but confusion would arise if they took a technical term and used it in a non-technical sense.

In the course of the discussion,

Mr. THOMSON pointed out that it was proposed to subject to something which was equivalent to an official inspection, which implied control, not only the professional examination but the cultural side of education. Some of the educational bodies might resent any such idea.

Dr. FINLAY said that if they were to appoint inspectors in all those subjects they must remember the financial aspect of the question. Their balance of £900 would soon disappear.

The PRESIDENT said that every question of a legal kind raised by Dr. McVail had been already answered by the opinion given by Mr. Muir Mackenzie in 1857 and acted upon continuously by the Council ever since.

Mr. TOMES, after further discussion, submitted that the amendment was of no use, seeing that they had resolved that the Examination Committee was to give the Council advice as to when and where inspections should take place.

Dr. MCVAIL agreed that the best plan would be to withdraw the amendment, which was accordingly done.

Dr. FINLAY moved an amendment on Standing Order 5, with the object of securing the appointment of three inspectors instead of one for medicine, surgery, and midwifery respectively. He thought there should be a great advantage in having expert opinions in each of those three great branches of examination.

The amendment was agreed to.

It was resolved to refer the question of remuneration of the inspectors to the Executive Committee for consideration and report.

On the motion of Dr. NORMAN MOORE, seconded by Dr. FINLAY, it was remitted to the Executive Committee to re-draft the Standing Orders in accordance with the resolutions come to.

Voting by Ballot for Direct Representatives.

Sir VICTOR HORSLEY moved:

> That the Executive Committee be instructed to approach the Privy Council and to secure such alteration in the regulations 8 and 10 of the Schedule of Instructions to voters under section 8 of the Medical Act, 1858, as will provide for the adoption of the principles of voting by ballot in lieu of the existing open system of election of direct representatives.

He declared that on principle secret voting was greatly to be commended and he could see no objection to adopting it.

Dr. BRUCE, in seconding the motion, said he felt that it was right that protection should be given to the voter as was done in Parliamentary elections.

The PRESIDENT said he thought it would require a new Act of Parliament to abolish the voting paper.

Dr. KIDD was of opinion that only an alteration of the Privy Council's regulations would be required. As the voting was at present conducted there was nothing to prevent personation, nor was there any attempt to define residence so as to prevent, say, an Irish practitioner who had practised in England for a long time voting in an Irish election.

Sir THOMAS MYLES said he had taken part in the last election in Ireland. He thought the personal feeling would occasionally menace the freedom of the voter.

After further discussion the motion was carried by a majority.

The PRESIDENT said they ought to be clear about the matter. He understood that the Executive Committee was to consider the matter first in order to see whether something definite could be placed before the Privy Council.

Sir VICTOR HORSLEY said that if the Executive Committee found the proposal absolutely impracticable they would no doubt report to the next meeting of the Council.

Students' Practical Midwifery Committee.

Sir JOHN WILLIAMS moved that the report of the Students' Practical Midwifery Committee be received and entered on the minutes.

> The committee reports under a resolution passed by the Council on May 27th, 1905, which is as follows:—
>
> "That a committee of the Council be appointed to inquire into the

operation of the rules regarding the midwifery practice required of candidates for medical qualifications."

This covers a wider field than any reference previously made to any committee appointed to inquire into the teaching of practical midwifery. The reference to the committee which reported to the Council on Nov. 29th, 1895, had special regard to attendance by the student on cases of labour under the supervision of a registered medical practitioner and was limited to that one point. The reference to the present committee covers the whole teaching of practical midwifery.

With the object of obtaining information upon the subject the following letter, signed by the President, together with the questions appended thereto, was forwarded to the licensing bodies which include teaching institutions and to other teaching institutions which are recognised by the licensing bodies for subjects other than those of the first year's course:—

"General Council of Medical Education and Registration of the
United Kingdom, 299, Oxford-street, London, W.,
August 2nd, 1905.

"SIR,—At the last session of this Council a committee was appointed to inquire into the operation of the rules regarding the midwifery practice required of candidates for medical qualifications and in connexion with this inquiry I have to ask in the name of the Council that you will be good enough to assist the committee, which is collecting information as to the present position of midwifery teaching, by answering the following questions so far as they relate to your school.

Yours faithfully,
(Signed) DONALD MACALISTER, President."

QUESTIONS.

1. At what period of the curriculum is the student allowed to attend his cases of labour?

2. What parts of his general medical education must he have completed?

3. What special preparation is given him previous to his attendance on his cases?

4. Are students required to attend clinical instruction in a lying-in hospital or obstetric wards? If so, how long is the student required to attend?

5. What is the midwifery teaching staff at your school and what amount of instruction do the members of it severally give?

6. What are the regulations of your school respecting attendance on cases of labour? Must the student attend them in your maternity department or may he attend them elsewhere?

7. How many cases of labour must the student have attended under adequate supervision before he is allowed to attend by himself alone?

8. How many cases is the student required to conduct personally? At how many conducted by others must he be present?

9. What is the average number of cases attended by each student in your school?

10. What proportion of your students "attend for three months the indoor practice of a lying-in hospital" as an alternative to not less than 20 cases of labour?

11. Who signs the student's certificate of attendance on cases of labour, and on what evidence?

12. What are your arrangements for the student attending cases of labour:—(1) Where does he reside during the time of his attendance on cases? (2) Does he attend the cases alone or in the presence of and under the personal supervision of (*a*) the obstetric physician; (*b*) the obstetric resident; and (*c*) a midwife? (3) What instruction is given (*a*) during the progress of the labour; and (*b*) during the puerperal period, and by whom is it given?

13. What are your rules respecting the student's action in abnormal cases?

14. Under what circumstances must the student send for help and to whom?

This letter was sent to 38 teaching institutions. Answers have been received from 37.

SUMMARY OF THE ANSWERS.

Three of the institutions have no school of practical midwifery, and their students obtain their practice elsewhere.

Several of the other schools have no maternity, and their students take out their midwifery practice in lying-in hospitals or elsewhere.

From 32 institutions more or less full answers have been received. These contain a mass of information which may be summarised as follows:—

1. The period of the curriculum at which the student is allowed to attend cases of labour varies in different schools, for he is allowed to attend in his third year in 16; he is allowed to attend in his fourth year in 15; at any time, but usually at the end of the third year, in one.

2. He will already have completed anatomy and physiology in eight; anatomy and physiology and lectures on materia medica in one; anatomy and physiology and lectures on midwifery in 14; anatomy and physiology, lectures on medicine, surgery, midwifery, and part of hospital work in two; anatomy and physiology, pathology, surgery, and first course of medicine in one; anatomy and physiology, clerking, and dressing in five; anatomy and physiology, first year's hospital work, and lectures on medicine in one.

3. With regard to the special preparation of the student previous to his attendance on cases there are lectures on midwifery in six; lectures on midwifery and tutorial classes in 20. He is required to attend one to six cases under adequate supervision (which appears to mean in the presence of the obstetric resident or other responsible officer) in 21; to pass a preliminary examination in midwifery in three. The six institutions, which provide systematic lectures on midwifery only, possess no maternities and their students take their midwifery practice in lying in hospitals or maternities in the neighbourhood.

4. It is obligatory on the student to attend the practice of a lying-in hospital for three or six months in six; it is not obligatory in 26. In one of the 26, however, most of the students attend a lying-in hospital.

5. It is difficult to summarise the information furnished respecting the staffs of the various schools and the duties of their several members. In Scotland none of the teaching institutions possess hospitals or maternities and the students obtain their clinical teaching and practical experience in the hospitals of the town in which the school is situated. In towns in which there are several medical schools, the infirmaries, dispensaries, and lying-in hospitals appear to be used in common by the students of all the schools. A similar practice seems to prevail in Ireland and in the provincial towns of England, while in London each school has its own outdoor maternity. There is one professor of, or lecturer on, midwifery in every school, with the exception of that of the Irish Conjoint Board. There is one professor, with or without assistants, in nine. There are two physicians (one being lecturer or professor) in 16. There are three physicians (one being lecturer or professor) in one. There are four physicians (one being lecturer or professor) in two There are eight physicians (one being lecturer or professor) in two. There are 12 physicians (one being lecturer or professor) in one. Among the four physicians at one school, the eight physicians at another, and the 12 at a third, are included the medical officers of the lying-in hospital. In five schools the professor has one or two assistants. Tutorial classes, conducted by one of the physicians, a professor's assistant, tutor, or demonstrator, are held in 21. In ten these classes are conducted by one of the physicians; in three by the assistant to the professor; and in five by the tutor, demonstrator, or obstetric resident. The main work of the obstetric resident, however, is to accompany the student to his early cases, to attend difficult or abnormal cases, and generally to superintend the work of the maternity. The length of the period during which the classes are held varies from three months to one academic year, and their meetings from one to three a week. Clinical lectures are also given, but the replies do not enable the committee to state in every case whether they are on subjects in midwifery or on subjects in gynæcology.

6. Six schools require their students to attend the practice of a lying-in hospital for a period of three or six months. Eight require them to attend their cases in the maternity of the school, while 19 permit them to take their cases elsewhere.

7. With regard to the number of cases the student is required to attend under adequate supervision, before he is allowed to attend cases alone, it appears that in two the number of cases required is six; in five the number of cases required is five; in five the number of cases required is three; in one the number of cases required is two, in one the number of cases required is a few; in seven the number of cases required is one. In one school he may attend alone from the first and in two schools there is no rule.

8. The student is required to conduct personally 20 cases at least in 19. Three of these require in addition five to ten cases conducted under supervision. Ten conducted personally and ten under supervision in one; 12 conducted personally in three; nine conducted personally and three by house surgeon in one; nine conducted personally in one; six at least conducted personally, not less than 12 in all, in one; no fixed number in two.

9. The average number of cases attended by each student may be stated thus: Between 20 and 40 cases, in 16 schools; between 20 and 60 cases, in one school, between 40 and 60 cases, in four schools; between 20 and 200 cases, in one school; between 12 and 16 cases, in seven schools.

10. In 11 schools none of the students attend for three months the indoor practice of a lying-in hospital "as an alternative to 20 cases of labour", and of those in ten others practically none do so. About 50 per cent of the students in one school take the alternative; about 6 or 7 per cent. of those in another attend the indoor practice of a lying-in hospital for three weeks; and about 15 per cent. of those in a third attend for one month—most of them in addition to attendance on 20 cases. All or almost all the students of six schools take three months in a lying-in hospital.

11. The certificate of attendance on cases is signed by an officer of the school or hospital generally appointed or authorised to do so. He may be the obstetric physician, house surgeon, resident obstetric officer, midwife, secretary, dean of faculty, warden, demonstrator of midwifery, medical superintendent, or the whole visiting staff. The certificate is signed on the evidence of the hospital register, record, medical staff, personal voucher of clinical clerk, obstetric resident, signed letters of the maternity officer in personal charge of students, student's report on cases which he has "seen," or examinations after six months' work in hospital.

12. During the period of his attendance on cases of labour: (*a*) the student resides in the hospital in 12 institutions; in quarters provided in six institutions; in lodgings near or within a radius of a mile from the hospital in 11 institutions. (*b*) In 12 institutions the student attends his cases under supervision—that of the obstetric physician in two; that of the obstetric, resident in four; that of the obstetric resident, qualified midwife, nurse, or midwife-nurse in three. In three he attends or may attend all his cases alone. In lying-in hospitals the student is always under the supervision of the matron, resident medical officer, or physician, and is placed in favourable circumstances to receive bedside instruction in the progress of labour and of the puerperium. The replies received respecting the instruction given in out-door maternities during labour and the puerperium are sufficient to indicate that it is at the best of a meagre character.

13 and 14. In all out-door maternities the rule is, broadly, to send for the obstetric resident in every case which presents any abnormality. In several answers particular abnormal conditions are mentioned, in the presence of which the student is required to summon the obstetric physician or resident, such as when the student is in doubt as to the nature of the presentation or is unable to make it out, abnormal presentation, protracted labour, retention of the placenta, accident, such as hæmorrhage before or after delivery, convulsions, exhaustion; when during the puerperal period the mother or child is not doing well; or when the pulse-beats are 100 per minute or the temperature 101° F.

Such is a summary of the answers received in reply to the questions sent to the schools.

OBSERVATIONS BY THE COMMITTEE

On reviewing the facts your committee find that—

(1) In eight schools the student is allowed to attend cases of labour after he has passed the examination in anatomy and physiology.

(2) In one after having in addition attended lectures on materia medica.

(3) In 14 after having attended systematic lectures on midwifery.

That is, the students of 23 schools are allowed to attend cases of labour before they have acquired any knowledge whatever of medicine and surgery. In 19 schools the attend his cases in the school maternity *or elsewhere*; in school maternity with this amount of supervision—that he is accompanied by the resident obstetric to his first case or first few cases and has directions to summon the resident when he thinks that necessary. The average number of cases attended by each student is in excess of that required by the Council in 22 schools, while it is below the Council's minimum in seven. The evidence upon which the certificate of attendance is signed would be satisfactory were it in all cases based on definite records of cases attended and not on personal belief or recollection. The nature of the supervision exercised over the student may be gathered from the fact that in 21 institutions, after he has attended from one to six cases with a medical officer, he attends the rest alone. 12 of the institutions reply that he attends under personal supervision, so that the words "personal supervision" in this connexion mean no more than that the student must send for the responsible officer when he thinks it necessary in accordance with the rules of the institution.

With regard to the instruction given during the progress of labour and the puerperium, full instruction is or may be given within the walls of a lying in hospital; but in outdoor maternities this is not possible, inasmuch as the student attends the great majority of his cases alone. Moreover, the fact that the cases are scattered over an area whose radius is a mile or more makes it impracticable for the resident officer or physician to visit them so as to give personal instruction upon them to the student in attendance. Consequently, the instruction in this respect given is of a very meagre character.

CONCLUSIONS.

Your committee have come to the conclusion that the rule of the Council—that is, that the student should attend the indoor practice of a lying in hospital or be present at not less than 20 labours, at least five of which shall be conducted throughout under the direct supervision of a registered practitioner—is not complied with by the majority of the schools. It seems obvious that even if the course of study recommended were in itself sufficient, since its requirements are not complied with there is no evidence to show that persons obtaining qualifications possess the required knowledge and skill for the efficient practice of midwifery. Your committee are of opinion that no student should be allowed to attend cases of labour until —

(1) He has filled the posts of clinical clerk and surgical dresser,

(2) Has attended a course of lectures on midwifery, surgery, and medicine, and

(3) Has given undivided attendance upon the indoor practice of a lying in hospital or the lying in wards of a general hospital for at least one month and has therein been properly instructed in the conduct of cases of labour.

It appears to your committee that by such means alone can the normal progress of labour, the use of antiseptics in midwifery, the course of the puerperium, and the care of the mother and child, be properly and practically taught, and the safety of lying in women and new-born infants be ensured.

RECOMMENDATIONS

The committee accordingly recommend —

1. That the following be substituted for the existing recommendations of the Council in regard to instruction in midwifery: "That every student should be required to have conducted not less than 20 cases of labour, subject to the following conditions (a) Before the student is allowed to conduct the above-mentioned 20 cases of labour he should be required to have held the office of clinical medical clerk and of surgical dresser, to have attended a course of lectures in medicine, surgery, and midwifery, to have during one month given undivided attendance upon the indoor practice of a lying in hospital or the lying in wards of a general hospital; and to have therein attended cases of labour under the direct supervision of a medical officer of the hospital He should further be required to produce a certificate from the authorities of the hospital showing that he is competent to undertake the conduct of ordinary cases. (b) No certificate that the student has conducted the above-mentioned 20 cases of labour should be accepted unless it is given by a member of the staff of a lying in hospital or of the maternity charity of a general hospital."

2. That copies of this report and the resolution of the Council thereupon be sent to all licensing bodies and medical schools in the United Kingdom.

MR. JACKSON seconded the motion.

SIR CHRISTOPHER NIXON referred to the great value of the report. He said it contained suggestions which showed that they had not been sufficiently active in this most important matter Thanks were due to Sir John Williams for the great care and labour which he had bestowed on this subject.

The motion was agreed to.

It was also resolved, on the motion of SIR JOHN WILLIAMS that the report should be circulated amongst the licensing and teaching bodies of the United Kingdom for their observations. At the same time Sir John Williams gave notice that he would move the adoption of the recommendations at the next session.

Executive Committee.

The following members were declared elected to the Executive Committee: Dr Pye-Smith, Mr. Young, Sir Hugh Beevor, Mr. Tomes, Sir John Batty Tuke, Dr. McVail, Sir Christopher Nixon, and Sir John W. Moore.

Penal Cases Committee.

The following members were elected to the Penal Cases Committee: Dr. Saundby, Mr. Tomes, Dr. Finlay, and Sir Christopher Nixon.

Report of Education Committee.

DR. MACKAY in a few words of explanation moved that the following report of the Education Committee be received and entered on the minutes:—

On the motion of Mr. MORRIS the Council, at its meeting of Dec. 2nd, 1905, passed the following resolution.—

"That it be referred to the Education Committee to consider and report to the Council (1) as to the desirability of transferring the preliminary science subjects (biology, physics, and chemistry) from the curriculum to a stage preliminary to the commencement of medical studies; and (2) as to the advisability of requiring the five years' period of medical study, even after removing from the curriculum these preliminary science subjects."

1. The consideration of this proposal involves important questions as to the standard at present reached in the secondary schools of the country, a subject which has quite recently engaged the serious attention of the Council. The committee believe that it is imperative that the Council should satisfy itself before considering any action in the direction suggested that in kind and amount the instruction is in a real sense equivalent to that which is at present demanded in the first year of the curriculum. In the course of the year 1904 a special committee of the Council drew up new syllabuses to guide the examinations in chemistry, physics, and biology, and it is gratifying to report that these appear to have been favourably received by the various licensing bodies It is too early, however, to speak of the effect of the new regulations and some little time must be allowed to elapse before the Council is in a position to test the progress which has been made by a renewed inspection of the first-year examinations The committee would, therefore, recommend that it is not desirable at present to exclude chemistry, physics, and biology from the professional curriculum.

2. With regard to the second proposal, the committee recommend that its further consideration be postponed until the report of the Examination Committee on the recent cycle of inspections has been fully discussed by the Council.

DR. NORMAN MOORE seconded the motion which was agreed to.

Public Health Committee.

DR. BRUCE stated that as no business had come before the Public Health Committee it had no report to make to the Council.

Report of the Finance Committee.

On the motion of DR. PYE-SMITH, seconded by MR. TOMES, the following report of the Finance Committee was adopted:—

The Finance Committee have to report that the income of the General and Branch Councils for the year ending Dec. 31st, 1905, was £8494 0s. 9d., the expenditure for the same period was £8286 2s. 1d.; consequently there is a surplus on the year's working of £207 18s. 8d. It is with great satisfaction that the committee record a surplus, the first there has been since 1895 The receipts by the branches from fees increased by £237 This is chiefly due to the Scottish Branch which registered 58 more names than in 1904. The General Council also shows an increase of £100, due to a larger number of colonial registrations. The rent from No. 16, Hanover-square shows an increase of £158, but as the old lease expired at Midsummer last the larger sum only represents the improvement on the last six months The charge for the insertion of additional qualifications and for restoration to the Medical Register, which was raised from 5s. to £1 in 1903, still continues to produce a satisfactory increase of income of about £400 a year.

The expenditure shows a reduction of £719. It will be noticed that—(a) the fees paid to members show the large decrease of £522, as each session was concluded in five days, (b) consequently the cost of printing programmes, minutes &c., was reduced by £72, and miscellaneous printing also shows a decrease of £34; (c) the increase in house expenses is due to the cost of painting and cleaning the Council chamber and offices; (d) office improvements are responsible for an increased expenditure of £210 This is one-fifth of the total cost (about £500) of the alterations in the office, the provision of the new safe, and the materials for the new file system in connexion with the Medical Register, plus the cost of the extra clerical labour, £111; (e) the cycle of inspection of examinations has been completed and there is a large reduction of £355 under this head; (f) the increase of £170 in miscellaneous expenses is chiefly caused by the large fees (£150) which had to be paid to the architects and surveyors in connexion with the proposals made some little time ago to move the office to No 16 Hanover-square, (g) the interest on the mortgage is reduced by the repayment to the English Branch Council by the General Council of £1000 in 1904, which appeared in the last balance sheet (this was the sum received from the builders next door for certain concessions), (h) the Irish branch was able to pay its way without the help of the General Council.

With regard to the income and expenditure of the three Branch Councils, it seems to be impossible to draw any deductions from the receipts from fees, the several Branches register sometimes less, sometimes more, names than the year before, but the general receipts are much the same, the average for the past nine years being £6732. Thanks to the diminished contribution paid to the General Council the English and Scottish Branches each show a substantial surplus and the Irish only a small deficit.

There is a satisfactory increase in the assets of the Branches and the Dental Fund.

The Pharmacopœia account shows a cash balance in hand of £935, and when the present edition is sold out at the end of about two years there should be a substantial sum to the credit of the fund.

The Irish Branch has a balance in hand, after deducting the liability, of £100 If the receipts and expenditure are about the same as last year the Branch ought to be able to pay its way, but the cost of the election of a Direct Representative will have to be met and the committee therefore recommend that a grant not exceeding £150 should be made, if it be necessary, to make up any deficiency.

The Dental Fund shows a steady increase of about £300 a year and it is in a very satisfactory position.

The Council has been fortunate this year in that an increase in receipts coincides with a decrease in expenditure. More than two-thirds of the former is due to receipts from fees, over which the Council has no control, but the decrease in the latter is very largely the result of the expedition with which the Council carried out the business of the sessions. Not since 1892 have the sessions together lasted so few days as ten, and this is only the third time in 20 years that it has happened. Had the Council at either session this year prolonged its meeting until the Monday the expenses would have been increased by £230, and if both sessions had been so prolonged half the surplus would have been wiped out at once. As far as can be foreseen the expenses of the General Council this year will be much the same as last, but a proportion of the cost of enlarging the Council Chamber will have to be met and the branches will each have to provide for the cost of the election of Direct Representatives. It is therefore not very probable that there will be much, if any, surplus at the end of the year.

At the meeting of the Executive Committee in November Mr. Ernest Frere, of the firm of Messrs. Prideaux, Frere, Brown, and Hannay, was appointed auditor. It will be in the recollection of some of the members that Mr. Frere presented a valuable report on the finances of the Council in 1901. Under his direction a new system of accounting for the cash received day by day in the office has been introduced, with the result that not only are the books much easier to keep and to check, but there is a considerable economy of time in the work.

Students' Registration Committee.

On the motion of Sir HUGH BEEVOR, seconded by Sir JOHN BATTY TUKE, the report of the Students' Registration Committee was received and entered on the minutes. After stating the manner in which applications of exceptional registration as students or for the ante-dating of the commencement of professional study had been dealt with the committee informed the Council that it had resolved that the Hull Municipal Technical School (day classes) should be added to the list of recognised institutions approved by the Council.

Direct Representation on the Council.

Mr. BROWN moved that representations be made to the Privy Council that the time has arrived when the number of Direct Representatives for England, Scotland, and Ireland should be increased to the maximum number permitted by the Medical Act of 1886. He said that when direct representation was conceded it was given in the proportion of 1 in 5 to the corporate representation. The proportion was now 1 in 6. Whereas in 1885 the number of practitioners in England and Wales was 16,624, last year it had increased to 24,351. He thought these facts were a strong argument in favour of the addition of another member to the representation of England and Wales. The number of practitioners in Scotland had increased from 2293 in 1885 to 3773, and in Ireland from 2458 to 2602.

Sir VICTOR HORSLEY seconded the motion and said it was only a matter of justice.

Mr. JACKSON also spoke in support of the motion.

Dr. LITTLE was afraid that to enlarge the membership would mean an increase in expenditure and a decrease in efficiency. He claimed that the representatives sent from the universities and corporations were just as alive to the wants of the profession as the Direct Representatives.

Sir JOHN W. MOORE: Does Mr. Brown speak on behalf of the profession as to the increased number of Direct Representatives?

Mr. BROWN: Yes.

Sir JOHN W. MOORE pointed out that in 1901 57·27 per cent. of the voting papers sent out were never returned. The profession did not want more Direct Representatives than they had.

Sir JOHN BATTY TUKE said that on the assumption that the legislature when it gave direct representation intended that it should be proportionate between the licensing bodies, the Crown, and the profession he was prepared to support the motion. He was prepared to advocate an increase of direct representation but he was not prepared to advocate indirect representation. Mr. Brown had that day asked a question and stated how the British Medical Association intended to lay out a plan of campaign. They were to select a number of gentlemen from whom they were to select three candidates, each of whom would have to sign an undertaking consenting to the submission of his name to the divisions of the Association as willing to be nominated on behalf of the Association at the election, and agreeing that if elected he would endeavour in every way in his power to give effect to the wishes and opinions of the British Medical Association. He objected to this scheme as a member of the General Medical Council, as a registered practitioner, and as a member of the British Medical Association. Gentlemen so elected would be direct delegates and though he had acted on the Council for 20 years he could not recollect any member of the Council who had adopted such a position. On certain occasions members had to advocate the policy adopted by the body they represented, but no man ever came into that room bound hand and foot. It would be inimical to the freedom of discussion and independence of judgment if anyone came there pledged as a condition of nomination to obey the instructions of an external organisation. In all Cabinets there were the outer and the inner Cabinets. In all great councils there were the outer and the inner councils, and he believed that such delegates would be the voices of a comparatively small number of men and that there would remain a large minority unrepresented.

Sir VICTOR HORSLEY: May I ask whether this motion has any reference to the British Medical Association?

The PRESIDENT: Yes.

Sir JOHN BATTY TUKE, continuing, said that he objected to the disfranchisement of those practitioners who were not members of the British Medical Association and as a member of that Association he objected to this scheme because delegates so appointed would have no weight except the weight conferred on them by the Association. He asked Mr. Brown to withdraw his motion until they saw whether this plan would be brought into operation.

Dr. SAUNDBY thought that Mr. Brown had made out a case of adding to the direct representation of England and Wales but not of Scotland and Ireland. He therefore moved as an amendment "that it is expedient to confer on the registered medical practitioners residing in England and Wales the power of returning an additional member to the Council." On the whole he considered this would be a better arrangement than to increase the membership of the Council by three. With regard to Sir John Batty Tuke's remarks he was sure that the British Medical Association would never ask anyone who came to the Council board elected by its organisation to do any public or professional wrong.

Sir THOMAS MYLES, in seconding the amendment, said that Sir John Batty Tuke before he came to the Council had to face his constituents and to give expression to his views on certain principles and when he himself came there the Royal College of Surgeons in Ireland knew that he would support certain views. If he did not do so they would make short work of him.

Dr. BRUCE, in supporting the motion, expressed his belief in territorial representation. It was true that they had to contend with the apathy of medical men but the Council should recognise the difficulty of canvassing such large districts.

The amendment was rejected by 14 votes to 7. Nine members did not vote and four were absent.

Mr. BROWN replying on the discussion, said if he felt that the British Medical Association would dictate as to who should sit on the Council he would not vote in favour of his own motion. He believed it was intended that every member of the Association should exercise his free judgment and vote in such a way as would best represent them at the Council. Several of the divisions had passed resolutions that the scheme of the Association was calculated to deter worthy representatives from coming forward for election.

The motion was defeated by 15 votes against 6. Eight members did not vote and five were absent.

Dental Education and Examination Committee.

On the motion of Dr. NORMAN MOORE the present members of the Dental Education and Examination Committee were reappointed to the committee.

Students' Registration Committee.

On the motion of Sir HUGH BEEVOR the following were appointed the members of the Students' Registration Committee: Sir Hugh Beevor (chairman), the President, Dr. Norman Moore, Sir John Batty Tuke, Sir Christopher Nixon, Dr. Mackay, and Dr. Adye-Curran.

Re appointment of the General Registrar.

Mr. Allen was reappointed general registrar.

Vote of thanks to the President.

The business having been concluded,

Dr. NORMAN MOORE moved a vote of thanks to the President for his admirable services in the chair.

The PRESIDENT, in acknowledgment, said he had to thank the officials of the Council and the chairmen of the various committees who had done so much to facilitate the work of the Council. He congratulated the Council on having got through the programme in a business-like manner and left nothing over that ought not to have been postponed.

The session then came to a conclusion.

THE LANCET.

LONDON: SATURDAY, JUNE 9, 1906

The Recent Meeting of the General Medical Council.

WE publish this week the conclusion of a full report of the proceedings which took place at the eighty-third session of the General Medical Council, and it is again our pleasant duty to congratulate the Council upon a prompt and businesslike discharge of its important duties. The session commenced on Tuesday, May 22nd and ended on the following Monday, and during that time the whole of an extensive and varied programme was disposed of. It was known that the programme would be a heavy one, because important business had been remitted by the Council to various committees during the winter session of 1905, with results that reports of an elaborate nature were anticipated. The reports were duly presented and proved to be documents the consideration of which required close debating, but, owing to the general temper of the Council being suited to work, decisions were arrived at clearly and promptly The most striking and important result of the aptitude for business now shown by the Council appears in the balance-sheet. It had become with us a stereotyped complaint at the end of each session that the finances of the Council were in an unsatisfactory condition. Sometimes the deficit was only small, it is true, and no one has ever been able to point to any wilful extravagance or obvious want of precaution; but there was the deficit, even if small, and there never seemed to be any promise of amendment. The only solid scheme put forward for raising the income of the Council—viz., the compulsory registration of the medical student—was viewed with considerable suspicion by certain of the medical corporations and was dropped some two years ago. And now, without any great reform, without any financial manœuvring, and without any loss in efficiency the story is of a surplus, the first surplus which the Finance Committee has been able to show for more than ten years. The President, in his opening address, attributed that surplus mainly to the decrease in expenditure brought about by the expedition with which the Council carried through the business of its two sessions in 1905, and we are sure that this is correct. Neither of these sessions lasted more than five days and the session that is now concluded only lasted six days, and in each case economy of words and well directed labour have produced wonderful results. But it must not be forgotten that this saving of official time has been obtained at the sacrifice of the private time of many of the members of the Council. Questions of importance have been referred to careful preliminary consideration by standing and special [illegible] ts, memoranda, and draft reports have been prepared and circulated in good time to members; and the medical profession as a whole should appreciate that this implies a great deal of personal, private, unpaid labour undertaken by men who are for the most part very busy. The President must also be congratulated in having been able to command such willing service; the readiness with which it has been given speaks volumes for his example and his tact.

Among special reports brought before the notice of the General Medical Council during the session two were of particular importance. The first was the memorandum of the Council upon the petition of the British Optical Association for the grant of a charter. As our readers know there is a Bill before Parliament which purports "to regulate the practice of sight-testing opticians as regards the testing of sight," and our opinion of this measure has been expressed quite recently.[1] The memorandum of the Council made public the grounds on which the members of that body object to the proposals of the Bill, finding them, as they have already informed the Privy Council, a menace to the public safety. The memorandum dealt in a civil but summary manner with the claim of the British Optical Association that in this country the optician had always been associated with the treatment of errors of refraction. It showed convincingly that none of our modern scientific knowledge in this direction has been due to the work of opticians, though certainly some of the famous work of DONDERS, as when he reconstructed the scale of lenses, might well have been anticipated by persons occupied in the mechanics of optical science. The memorandum pointed out, as we have done many times in our columns, the manifest perils of allowing persons, who have not been educated to recognise the symptoms or to undertake the treatment of general pathological conditions, to obtain official recognition as qualified to prescribe for such symptoms. The anomalous position was pointed out very plainly and the document must have considerable weight with the Privy Council. It will be found substantially reproduced in our columns, and in our opinion it disposes completely of the suggestion that some registration of opticians is required for the good of the public. But it places a distinct responsibility upon the Council. The Council, through the visitors and inspectors of the examinations at the various centres of medical education, must insure that every medical man shall be thoroughly and properly equipped to deal with the pathology and treatment of errors of refraction. It must be remembered that after a certain age a large proportion of the population may require ophthalmological assistance and the medical profession, while holding that no one without a medical training can offer such assistance, must be itself perfectly equipped to meet the public need. A second valuable report was that of the Students' Practical Midwifery Committee on the operation of the rules regarding the midwifery practice required from candidates for medical qualifications. The education in midwifery that is received by the medical student is in a manner comparable to that which he receives in ophthalmology, while the registration of midwives, now an accomplished fact, resembles to some extent the official recognition sought by opticians. The registration of midwives has not proved to be the success that was anticipated by its more ardent supporters, but, if it had, the arguments which led to the creation of the Central Midwives Board could not be applied with logic to the cause of the opticians, although the superficial resemblance between the situations is striking. Just as a large majority of our population requires the assistance of the ophthalmologist so a large proportion requires the services of the obstetrician, and if the public is not to look outside the ranks of the properly qualified for assistance it is incumbent upon the medical profession to be thoroughly well equipped. There is no branch of the medical profession that brings the practitioner into closer relations with the public, that entails upon him more anxious and delicate care, that earns him more gratitude when his ministrations are successful than the practice of midwifery, and it shows a right appreciation of the situation when the Council sets itself to look closely into the ordained curriculum and into the way in which the regulations are obeyed by the different qualifying bodies. For better or worse our legislature decided upon the registration of midwives and obstetrical assistance of a certain skilled sort is now provided for the parturient poor outside the ranks of the medical profession. It is absolutely necessary that the General Medical Council should be able to guarantee to the public that the obstetric services rendered by the medical profession, which are now to some extent limited to the more arduous cases, shall be of a high scientific and practical standard.

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[1] THE LANCET, May 26th, p. 1483.

On the last day of the session there was an interesting debate upon the necessity or otherwise of increasing the number of Direct Representatives of the medical profession upon the Council. Mr. George Brown moved that representations should be made to the Privy Council that the time had arrived when the number of Direct Representatives for England, Scotland, and Ireland should be increased to the maximum number permitted by the Medical Act of 1886. To this Dr. Saundby moved as an amendment that an additional Direct Representative should be elected for England and Wales. Mr. Brown had no difficulty in showing that if five Direct Representatives constituted a fair proportion in 1886 they could do so no longer, now that the Council is enlarged, and it appears to have been the opinion of the Council that he was in this way able to justify his motion. However, both motion and amendment were lost. We thoroughly commend all attempts to obtain upon the Council the first-hand views of members of the medical profession engaged in general practice. The Lancet was among the first to moot the suggestion that there should be upon the General Medical Council seats found for Representatives of the mass of the medical profession, and looking back on the work that has been done by the Direct Representatives we think that their place at the Council Board has been amply justified. We therefore see no point in delaying the alteration of the constitution of the Council that is provided for in the Act, even though we may not attach much importance to the argument that as the Council grows larger the number of Direct Representatives should be increased. It seems to us that the Direct Representatives can never have any voting power because of their number. Their function must always be to inform the Council upon points which an intimate knowledge of professional life has enabled them to appreciate, and so to sway the votes of the Council. We are inclined to think that the arguments of five good men are likely to be nearly as valuable as those of six good men, while a voting strength of five out of a body of 30 is for practical purposes nearly as powerful as a voting strength of six. Any reconstitution of the Council that would put the representatives of the Universities—an increasing class, it must be remembered—and of the corporations, taken together, into a minority would be so drastic that its consideration must present great difficulty. The British Medical Association is known to desire such thorough reconstitution of the Council that it is not difficult to understand the reluctance of some of the representatives of the universities and corporations towards reform. They feel that they do not know, once a beginning is made, where the changes may end. And this being so, we think that the members of the Council had grounds at the present juncture for their attitude, though we have every sympathy with the spirit that prompted Mr. Brown's motion.

We shall have occasion to refer again to other interesting subjects which formed the business of the last session of the General Medical Council.

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The Effects of Metazoan Parasites on their Hosts.

In an admirable paper under the above title by Mr. A. E. Shipley and Mr. E. G. Fearnsides of Cambridge, published in the *Journal of Economic Biology*, 1906, Vol. I., Part 2, the effects produced by the parasitic metazoa upon their hosts are carefully described and the manner in which they act injuriously is considered. These parasites are regarded as affecting their hosts in four ways—viz., by the mere presence of the parasite in an organ exerting pressure and displacing tissues, by the migration of the parasite from one part of the body to another, by the loss caused through the parasite feeding on the juices of its host, and lastly by the action of certain toxins said to be given off by the body of the parasite either as excretions or otherwise. It is this last mode of parasitic action that has recently attracted the attention of parasitologists and in the paper before us the present state of our knowledge in this direction is summarised with full references to the literature of the subject. The principal evidence of the existence of such toxic substances may be considered under two heads—first, the actual separation of toxins from the body of parasites, and secondly, the changes induced in the blood of the host as a result of harbouring the parasite. The difficulties in the way of the separation of toxins is considerable and, as Mr. Shipley and Mr. Fearnsides point out, it requires men of special training to carry out such a research. Evidence in this direction is, however, slowly accumulating, but by Blanchard and some other observers the matter is regarded as still *sub judice* as to whether these toxins play an important part in the symptoms produced in the hosts. Examples given in illustration are that the cysts of tænia echinococcus contain a leucomaine which if absorbed sets up urticaria, while toxins have been separated from the cysts of other cestodes. Again, Calamida obtained from the adult forms of tænia cucumerina and tænia cœnurus toxins which produced hæmolytic changes and possessed a chemiotactic attraction on the eosinophile leucocytes. The most interesting case for discussion in regard to the cestodes is in reference to dibothriocephalus latus, formerly called bothriocephalus. That a severe form of anæmia of pernicious type occurs in association with the presence of this parasite is well known, while toxins of great virulence have undoubtedly been separated from the bodies of these organisms. On the other hand, their presence is not invariably associated with this severe form of anæmia; it has, therefore, been conjectured that it is only when the cestode is ill or dead that the toxin is set free and produces its effects. In regard to parasitic trematodes or flukes very little evidence of the formation of toxins by them is forthcoming but it is far otherwise in the case of the nematodes. One of the best known examples is the ascaris megalocephala, a parasite of the horse, the emanations from which sometimes produce asthmatic and other toxic symptoms in man as described by Dr. H. CHARLTON BASTIAN.[1] Again, with regard to ankylostoma duodenale, recent research seems to point to the fact that this worm is not a blood sucker and that the marked anæmia which it induces in its host is due to toxins possessing a hæmolytic action, these toxins probably being formed by the cephalic glands which are of unusual size in ankylostoma.

The changes in the blood of the host, notably the condition of eosinophilia, found in association with the presence of so many metazoan parasites supply, as Mr. SHIPLEY and Mr. FEARNSIDES insist, a very strong argument in favour of the theory of their toxic action and a considerable section of the paper is devoted to the consideration of these changes. The first observation of this nature was that of MÜLLER and RIEDER who in 1891 found an increase, both relative and absolute, in the eosinophile cells of two men infected with ankylostoma duodenale. Since that time this observation has been generally confirmed and a similar condition has been found to occur in association with many other parasites. It is further found to be accompanied by the presence of Charcot Leyden crystals in the fæces. The normal number of eosinophiles varies from 1 to 4 per cent. of the total leucocytes; consequently any increase beyond the latter figure may be regarded as an eosinophilia. It is of interest to consider the effects produced by various examples of the three groups of parasitic helminths separately. In the case of the cestodes, except in a few cases, such as dibothriocephalus latus and tænia echinococcus, the blood changes are comparatively slight, nevertheless, in nearly all cases there is at some time or other a condition of eosinophilia, though, as BOYCOTT and HALDANE have shown in regard to other parasites, this increase may disappear even though the worm is not removed Dibothriocephalus latus seems to produce changes mostly in the red blood corpuscles, so that oligocythæmia and high colour index result, while nucleated red corpuscles, chiefly of megaloblastic type, and polychromatophile cells appear—in other words, a hæmolytic anæmia of pernicious type. According to SCHAUMANN eosinophilia occurs only in a small number of cases. In cases of hydatid cyst eosinophilia is the rule and a proportion of 57 per cent. of the total leucocytes has been recorded. The condition rapidly disappears after operation. In cases of cysticercus cysts eosinophilia may or may not be present. In the case of trematode parasites the only instance in which definite details are forthcoming is that of schistosomum (bilharzia) hæmatobium. DOUGLAS and HARDY[2] after a study of 50 cases found a leucocytosis in all of them, with an average of 16·48 per cent. of eosinophiles. In the case of nematodes a large number of observations are on record. With both ascaris lumbricoides and oxyuris vermicularis a condition of eosinophilia is usually associated. Likewise with trichinella (trichina) spiralis eosinophilia is the rule, while in cases of human trichiniasis EHRHARDT made the interesting observation that an accumulation of eosinophile cells was to be found around the encapsuled larvæ. In cases of filarial disease from filaria Bancrofti there is eosinophilia in recently acquired cases and this condition seems to exhibit a periodicity like that of the embryos themselves—e.g., in one case the eosinophiles varied from 3 to 15 per cent. in the 24 hours. An increase in the eosinophiles has also been found in association with filaria loa, filaria (dracunculus) medinensis, while varying results have been obtained with trichocephalus trichurus (dispar) and strongyloides intestinalis. The most interesting and important example of nematode infection is, however, that of ankylostoma duodenale which produces marked changes in all the blood constituents. BOYCOTT and HALDANE have shown that the total volume of the blood is markedly increased, while its oxygen capacity is slightly diminished. The red corpuscles are considerably reduced in numbers, the colour index is low, normoblasts are frequently present, while poikilocytosis and polychromatophilia are found in a few cases. The leucocytes in BOYCOTT and HALDANE'S cases showed an average of 13,000 per cubic millimetre, with an eosinophilia both relative and absolute. This last condition is most marked in recent cases and often in those who are not suffering from noticeable anæmia. The eosinophilia may be so great as to constitute 72 per cent. of the total leucocyte count.

From their study of these conditions Mr. SHIPLEY and Mr. FEARNSIDES conclude that these metazoan parasites "do give off toxins which profoundly affect the tissues of their host." The subject is one affording scope for more investigation and may open up fresh possibilities in regard to the treatment of these troublesome and in some cases dangerous parasites which play so important a part in the genesis of tropical diseases. Already the condition of eosinophilia has proved useful in the diagnosis of these infections and although not pathognomonic it affords valuable suggestive evidence in some cases.

"Commercialism" in Medicine.

OUR respected Transatlantic contemporary, the *St. Louis Medical Review*, under the title of "Commercialism, Professionalism, and their Mutual Relations," has lately republished a series of articles which have appeared in its columns during the last few months; and the republication is rendered more interesting to English readers by the circumstance that the articles are pronounced by Professor

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[1] Philosophical Transactions, 1893, p. 583, note.

[2] THE LANCET, Oct. 10th, 1903, p. 1009

W. OSLER to be "excellent in every way," and that he has desired to be furnished with two copies of the reprint. It was the custom of RICHARD HEBER to purchase three copies of any book which he highly esteemed, "one for himself, one for his library, and one for his friends," and we presume that the order given by Professor OSLER may be regarded as indicating the next degree of appreciation. Generally speaking, and so far as principles are concerned, we are able cordially to endorse his approval; although the circumstances surrounding medicine and pharmacy in the United States differ too widely from those which obtain among ourselves to render the articles entirely applicable to British conditions. "Commercialism" is defined to be "the spirit that animates the commercial life, the ideals at which it aims, the ethical canons by which it professes to be guided." The writer frankly states that the first object of the commercial man is to enrich himself, to establish his own material prosperity; an object which, with the important qualification that it must be striven after worthily and honourably, is declared to be honest and praiseworthy. In contrast to commercialism, which is concerned primarily with self, the spirit of true professionalism should, we are told, be concerned necessarily and primarily with others and only secondarily with self. Commerce seeks to supply (or even to create) needs, for the purpose of getting the largest possible gains by supplying them; a profession seeks to supply necessary requirements and should be content with the customary return for the services which it affords. The difference between professionalism and commercialism as regards the profession of medicine is thus pointed out: "The man who enters upon a profession, and especially the profession of medicine, with commercial standards is doing not only a wrong to the profession but a foolishness to himself; for the seeker after the commercial standard of success has open to him therein few prizes obtainable by honest and honourable means and none at all comparable in magnitude to those offered by commerce, honest as well as dishonest." The cordial admission that "commercialism" may be honest is somewhat seriously qualified by an accompanying assertion (which has been curiously illustrated by disclosures concerning American meat) that, as a matter of fact, it is saturated with corruption and that, in many of its forms, "it stops short at no kind of chicanery or deceit, provided such can be practised with impunity." If we read between the lines of the articles we may observe a very manifest fear that a profession, if it once became imbued with the commercial spirit, would be likely, before long, to descend to the level of commercial morality.

What is commonly regarded in this country as the differential phenomenon between a profession and a trade (the fact that the exercise of a profession rests upon the personal effort and skill of the practitioner, while it is customary to drive a trade by the multiplication of assistants who are adequate representatives of the tradesman to the customer) does not seem to have presented itself to the thoughts of our contemporary, or at least is not mentioned in any of the articles. It is manifest, none the less, that the difference is an important one; and that it must always serve to maintain a personal tie between practitioner and client which is absolutely non-existent between trader and purchaser. The practitioner, whether medical or legal, is directly responsible for the opinion which he gives or the practice which he pursues; the trader either does not admit, or can easily evade, responsibility for the acts and statements of the majority of the persons in his employment. The difference is no doubt to some extent responsible for a general laxity of statement in matters of trade, to which no parallel can be found in professional intercourse, and which only fails to deceive or to injure because it is so generally or even universally discounted by those to whom it is addressed —at least when these belong to the really educated classes. The results of board school teaching, there is too much reason to believe, have been definitely injurious to many of the poor by enabling them to read the abounding falsehoods put forth by trade advertisers, while giving them no assistance in respect of judgment. The physical deterioration of the children of the poor, to whatever extent it may exist, is certainly due in some measure to the purchase by their parents of innutritious foodstuffs, recommended to their notice by flaring posters and artfully designed illustrations. It is much to be wished that either municipal authorities or some Government department, such, for example, as the Local Government Board, would render the public service of issuing notifications concerning the true values of advertised compounds and would thus save the ignorant from being victimised by a form of "commercialism" which more than justifies all which the *St. Louis Medical Review* has said concerning its most injurious developments. The knowledge necessary for this purpose could, of course, be supplied by the medical profession, but it could not be supplied publicly without risk to any private persons concerned in the endeavour. As the *Review* reminds us, the purchaser who tenders spurious coin or false bills in exchange for goods is regarded by "commercialism" as a criminal for whom no condemnation could be too severe, while the vendor who palms off some worthless article in exchange for the genuine coin which he receives is considered worthy of commendation as a "smart" business man The law of libel would probably be successfully invoked for the purpose of restraining truth-telling with regard to advertised preparations.

Another important question dealt with by the articles before us is that of the promotion of "the interests of the profession in opposition to those of the public." "Right there," we are told, in Transatlantic idiom, lies the spirit of commercialism in its most dangerous form, no longer confined to sporadic cases but epidemic and virulent. We are told, the experiences of the United States being employed as an example, that when any vocation placed in an especially philanthropic relation to the public, as a result of the public's helpless dependence upon it, begins to admit among its motives for seeking special legislation ' the interests of the profession" it is becoming a menace of the worst kind to the public good. The moment we lose sight of the fact that the beneficent professions as such are the servants of humanity "that moment we become charlatans. The public good, and that alone, is the sole justification for medical legislation, whether it relate to practice, to the suppression of quackery, the prohibition of indecent advertising, or the abolition of the alcoholic nostrum and secret remedy traffic." We are glad to quote these opinions from our contemporary. The evils referred to are, on

THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 17th, 1906.

THE TRIBUTE OF THE CLERGY AND MINISTERS TO THE WORK OF THE HOSPITALS.

FOR many years we have endeavoured to tell the tale in our own words of the great and pressing claims of the Hospitals of the Metropolis upon the sympathy and the practical support of the public. We know that we have done so with some success, but we know also that the needs of the Hospitals still remain unrevealed to an enormous public. This year we have asked some of the Clergy and Ministers to tell the tale to the members of their congregations in their own words, with what will, we trust, prove to be greater success.

The tale must be the same whoever tells it, or whatever the form of words used. But as the Minister of the place of worship welcomes the Special Preacher to give the same Message to his people with the hope that it will receive the greater attention from the lips of the visitor, so we hope that the Special Preachers in THE LANCET Supplement will ensure for the cause this year a more direct and personal interest and attention than may have been aroused heretofore.

With this object in view we addressed a letter to some of the Clergy and Ministers whose congregations last year sent their offerings to the Metropolitan Hospital Sunday Fund, pointing out that we were anxious to bring home to our readers, in as forcible a manner as possible, the excellent work done by our Hospitals and kindred Institutions, and stating our belief that it would very greatly help us if the clergy and others who are in the habit of addressing their congregations each year on behalf of the Hospital Sunday Fund would bear *personal* testimony to the great benefits derived from the Hospitals by the sick *poor*.

Considerations of space *preclude* our giving more than a brief sentence from each of the many interesting replies which we received; some did not lend themselves to such *curtailment, and are therefore* not recorded; and some reached us too late to *be dealt with.* It may well be said of those we now print that they are *eloquent* in *their brevity*; they use no embroideries to adorn the story they have to tell. *They all with* one accord point to the "Palaces of Pain" as having the *greatest influence* for good in the greatest city of the world, without whose ever-open *doors for the* reception of the sick and suffering the work of the Clergy and Ministers would be well-nigh impossible. Last year the Ministers of religion obtained *from* the Hospital Sunday Fund no less than 17,000 letters for Hospitals, Convalescent Homes, &c., and nearly 7,000 orders for surgical appliances for their poor people. What these meant to the recipients we will not attempt to describe—the Clergy and Ministers are telling the tale this year, and in the telling of it they are appealing to a much wider audience than their own congregations.

To the wealthy they would say—

GIVE OF YOUR WEALTH.

To the poor they would say—

GIVE OF YOUR POVERTY.

To all alike they would say—

GIVE ACCORDING TO YOUR MEANS,

not grudgingly or of necessity, but cheerfully and as a duty you owe to your sick and suffering brethren.

MAY THEY NOT APPEAL IN VAIN.

The Clergy and Ministers now take up the tale:—

The Archbishop of Canterbury.

"No one who knows *London* and *its needs* can doubt how absolutely essential it is that our Hospitals *shall receive increased* support if the life of our community is to be in any measure what it *ought to be.*"

RANDALL CANTUAR.

The Archbishop of Westminster.

"The Metropolitan Hospitals are doing an *excellent* work of charity and humanity, and deserve every support and encouragement."

✠ FRANCIS ARCHBISHOP OF WESTMINSTER.

The Bishop of London.

"*It is* impossible to over-estimate the benefits the sick poor receive from the Hospitals."

A. F. LONDON.

The Bishop of Southwark.

"Everyone who, like myself, has had to go through *severe illness* as a patient in his own house must feel at I did the happiness of *thinking that those* who cannot afford this receive in our splendid Hospitals the very best skill and care."

EDW. SOUTHWARK.

The Bishop of St. Albans.

"I have been connected with Hospitals all my clerical life, and cannot exaggerate their value. It would be nothing short of a calamity for them to be starved or straitened, and their support by voluntary contributions brings out all that is best in human nature."

EDGAR ALBAN.

The Bishop of Woolwich.

"No one who knows anything about the sick poor can doubt that thousands of lives are saved yearly and untold human suffering alleviated by means of the Hospital system."

J. C. WOOLWICH.

The Bishop of Kingston.

"Thank God for our Hospitals, the first fruits of Christianity."

CECIL KINGSTON.

The Bishop of Barking.

"The help given by the Hospitals to poor parishes in London-over-the-Border is simply invaluable."

T. BARKING.

The Chief Rabbi of the United Hebrew Congregations of the British Empire.

"I gratefully recognise the fact that in all the Metropolitan Hospitals my suffering fellow-believers are received and treated with all possible consideration."

H. ADLER.

The Minister of St. John's Wood Presbyterian Church.

"There is no charity which has stronger claims upon philanthropic and Christian people than the maintenance of those noble institutions the Hospitals."

J. MONRO GIBSON.

The Pastor of Harecourt Chapel, Canonbury.

"I could fill THE LANCET with reports of cases in which the Hospitals have been of untold blessing to the people."

CHAS. LEACH.

The Minister of the Wesleyan Methodist Church, Quex Road, Kilburn.

"The Hospitals of London are doing most excellent work among the poor. I know many who have been restored to health and vigour who must have died or have been incapacitated for life without their aid."

W. CORNELIUS JONES.

The Rector of the Church of the Sacred Heart, Kilburn

"Our necessitous and sick poor have largely benefited, and much distress has been relieved, and permanent good done, by our Hospitals."

JAMES O'REILLY.

The Minister of Harlesden Baptist Church.

"It is impossible to express in words the blessing the Hospitals are, to thousands who could get relief in no other way."

BENJN. THOMAS.

The Minister of the Swedenborgian Church, Camberwell.

"I am pleased to bear testimony to the good work done for the sick poor in our Hospitals, and I can speak in the highest terms of the good treatment they receive, from doctors and nurses alike."

GEORGE W. WALL.

The Rector of Holy Trinity, Marylebone.

"There are scores of homes in this parish which would almost certainly have ceased to exist but for the beneficent work of the Hospitals."

E. GROSE HODGE.

The Archdeacon of London.

"The results of our Hospitals are almost miraculous. The poorest and humblest sufferer is treated with the same respect, attention, and concentration as would be bestowed on the greatest of Crowned Heads. The peace, faith, and hope inspired by the general atmosphere of the Hospitals are beyond all value in the cure of disease."

WILLIAM SINCLAIR.

The Rector of St. James's, Piccadilly.

"I do not know what our sick and ailing poor would do without our Hospitals. They save untold pain, they remedy distressing defects, they give hope and life when despair sets in and death threatens."

JOSEPH MCCORMICK, *Prebendary of York Cathedral.*

The Vicar of All Saints', South Lambeth.

"Every clergyman who works as I do amongst the poor is a daily debtor to the Hospitals. They are doing a splendid work in a very necessary field of labour, and I myself am grateful every week for the untold blessing which they are to hundreds of my suffering people."

ALLEN EDWARDS, *Canon of Southwark Cathedral.*

The Rector of Stepney.

"We who live here know many a man, woman, and child whose life has been saved by the Hospitals, where the best advice and the best care are offered as a gift."

ARTHUR E. DALTON,
Prebendary of St. Paul's Cathedral.

The Vicar of Christ Church, Lancaster Gate.

"The vast majority of cases of severe illness amongst the poor would be quite hopeless for proper treatment but for the work of the Hospitals."

FRANCIS GURDON.

The Vicar of St. Mary's, Soho.

"It would be quite impossible for the parish clergy to help their people in times of trouble unless they were able to obtain help from the Hospitals of London."

G. C. WILTON.

The Minister of Woolwich Tabernacle, and ex-President of the Baptist Union.

"What London would be without the Hospitals I dare not even try to think. I put them at the head as the greatest institutions for the alleviation of distress and misery.

J. WILSON

The Rector of St. Peter's, Walworth Road.

"The attitude of the poor towards our marvellous palaces of pain is that of thorough confidence and deep gratitude."

J. W. HORSLEY, *Hon. Canon of Southwark.*

The Vicar of St. John's, Walworth.

"Without the aid of the Hospitals, it would be impossible for the poor to obtain the help so sorely needed.

A. W. JEPHSON, *Hon. Canon of Southwark.*

The Charterhouse Missioner in Southwark.

"I have almost daily experience of the benefits conferred upon the people in this district by the Hospitals. No words of mine can fully express the extent and variety of those benefits."

HERBERT RIDLEY.

The Rector of Streatham.

"I am brought into almost daily contact with evidences of the immense benefits which Hospitals confer upon all classes of the community."

HENEAGE H. JEBB.

The Vicar of St. Alphege, Greenwich.

"In cases of serious accident or of operations the Hospitals are the only places where the poor can receive the treatment which they need."

S. MARTYN BARDSLEY.

The Pastor of Mildmay Park Wesleyan Church.

"Many poor people, young and old alike, of my church have much reason to thank God for the help they have received in their sickness and in their need from the Hospitals."

W. SPINK.

The Vicar of St. Andrew's, Westminster.

"I always feel that the Hospitals do the work Christ did among the poor and prove that the love He brought into the world has grown into a mighty force."

J. S. NORTHCOTE.

The Vicar of St. Matthew's, Brixton.

"It is impossible to express in words the immense good accomplished by the London Hospitals amongst the poor."

A. C. WALDRON.

The Vicar of Islington.

"In a great working-class district like Islington we are constantly brought face to face with the beneficial results of Hospital treatment *amongst our people*, and any curtailment of the privileges they afford would indeed be a *calamity*."

CHAS. J. PROCTER

The Vicar of St. Andrew's, Peckham.

"Very great benefits are derived from the various metropolitan Hospitals by the very poor residents in my parish. What we should do without the ready aid of the Hospitals it is quite impossible to say."

WM. PHEASANT.

The Vicar of St. Anne's, Holloway.

"As Vicar of this large parish and in touch with so many working and labouring class people, I emphatically state that I cannot conceive what their *sufferings* would be if they had not the Hospitals to turn to in their severe need."

JOHN A. MAYO.

The Vicar of St. Thomas's, Camden Town.

"During 20 years' visiting of the sick poor in the Hospitals of London, I have felt increasing respect for the work of these noble institutions."

HUBERT HANDLEY.

The Pastor of Vernon Baptist Chapel, King's Cross.

"Our sick poor have been helped and received *great* good through treatment at the *Hospitals*."

D. H. MOORE

The Vicar of St. John's, Fitzroy Square.

"I regard the Hospitals as an absolute necessity to the working poor. Their homes are not adapted for dealing effectively with disease, nor are their resources sufficient to command first-rate medical advice."

J. J. COXHEAD.

The Priest-in-Charge, Enfield Lock, Middlesex.

"The Christian care of the sick poor in our London Hospitals, both bodily *and* spiritual, is of the most unselfish nature, doctors, chaplains, nurses, and officers all combining to give their best."

H. LAURENCE TAYLOR.

The Vicar of St. Philip's, Leyton.

"It is impossible to imagine what the conditions of existence would be amongst the poor sick folk in this parish if the results of the best medical science were not at their service. The amount of *misery* and suffering which our Hospitals serve to alleviate is incalculable."

R. ELLIOTT.

The Vicar of Christ Church, Battersea.

"It would be a terrible thing if ever the efficiency and scope of the good work done by the Hospitals was *diminished*."

E. A. CARTWRIGHT.

The Vicar of St. Paul's, Stratford.

"I gladly bear testimony to the value of our Hospitals to the suffering poor. We see much suffering even now, but what it would be without the help of the Hospitals I should not like to realize."

WM. H. FERGUSON.

The Minister of Grove Wesleyan Church, Stratford.

"I am profoundly grateful for the most valuable help afforded to the poor people of my congregations by Hospital treatment. Many have thanked me with deep feeling *for* the assistance they have received."

JOSIAH MEE

The Vicar of St. Stephen's, Upper Holloway.

"I have sent patients to a variety of Hospitals, and the assistance rendered in all cases was most beneficial."

JOSEPH KAHN.

The Vicar of St. Barnabas, South Lambeth.

"As Vicar of a parish of 10,000 people, I can testify to the great benefits derived by the poor from the *treatment they receive at the Hospitals*."

W. F. G. SANDWITH.

The Vicar of St. Stephen's, Hampstead.

"The many poor of this parish derive from the London Hospitals a most real benefit, and I am glad to have the opportunity of acknowledging our debt."

H. W. BATE.

The Vicar of St. James's, Plumstead.

"But for the Hospitals it would be quite impossible to cope with the sick poor in this large parish who need medical and surgical treatment. The value of their help is quite beyond estimation."

G. ASKWITH.

The Vicar of St. John's, Kilburn.

"In a poor parish of 12,000 people such as this, we should often be in despair if it were not for the Hospitals, without which *many* lives would be sacrificed and suffering would be increased."

GEORGE MARTIN.

The Minister of Oaklands Congregational Church, Uxbridge Road.

"I *can* testify to the admirable work done by the Hospitals. Multitudes who would otherwise be unable to receive any *medical* treatment are dealt with efficiently and kindly at these excellent institutions."

RODERICK G. DAVIES

The Vicar of All Saints', Stoke Newington.

"I hardly care to think of what *many* sick people I have known would have endured if there had been no Hospitals. The thought of such a thing is terrible."

H. B. COLCHESTER.

The Vicar of St. Saviour's, South Hampstead.

"I bear grateful testimony to the excellent work done by the Metropolitan Hospitals *for* the sick and suffering poor of my parish."

G. A. HERKLOTS.

The Pastor of New Court Congregational Church, Tollington Park.

"The lot of the poor would be much harder and their sufferings much greater were it not that at the Hospitals they are able to get the best of attention 'without money and without price.'"

HENRY J. PERKINS.

The Vicar of St. Clement's, Fulham.

"It would be impossible for the majority of working people in this parish to get adequate medical assistance for their various ills were it not for the Hospitals, which bring comfort and healing to many to whom these would otherwise be lacking."

Richard Free.

The Vicar of All Saints', Whetstone.

"Amongst our poor are many cases of relief and restoration to health through treatment in the Hospitals. One of my parishioners suffering from typhoid could never have recovered without the care he received in the Hospital."

Henry S. Miles.

The Vicar of St. Matthew's, Denmark Hill.

"The advantages derived by our sick poor from the Hospitals have been the means of prolonging the life and relieving the distress of hundreds who, otherwise, must have endured prolonged suffering or even death."

J. R. Porte.

The Vicar of St. Martin's, Kensal Rise.

"Without the aid of the Hospitals it would be impossible for numbers of poor people in this district to obtain adequate medical attention."

A. M. Hanley.

The Vicar of St. Saviour's, Pimlico.

"I can testify to the invaluable work the Hospitals have done for my poor and sick. What we should do without them I do not know."

Henry Washington.

The Pastor of the Congregational Church, Burdett Road.

"I send scores of cases to the Hospitals during the year. What East London would be like, as regards pain and suffering, without them I dare not think of."

Tom Warren.

The Vicar of Plumstead.

"It would be appalling to think of London without its Hospitals. It takes half the burden out of sickness to know they are there."

W. Falkner Baily.

The Vicar of Winchmore Hill.

"The London Hospitals are invaluable for our poor people: *some are received at a few hours' notice* for very serious operations, without which they must die, as they could not possibly be performed at home."

Arthur J. B. Dewdney.

The Vicar of St. James's, Walthamstow.

"We clergy here, with *ninety acres of small houses* and a population of fully 13,000, know people by scores who must have died in misery long ago, but who, thanks to the skill and care of the Hospitals, are alive and well."

F. W. Vernham.

The Vicar of Kentish Town.

"Hundreds of lives are saved every year by patients being removed to Hospitals, where the best of nursing and treatment are placed within the reach of the very poorest."

R. T. A. *Money Kyrle*.

The Vicar of Barking.

"What we should do *without the* Hospitals I tremble to think. The great bulk of my people sooner or later are thankful to enter one or other of the *many* institutions."

J. W. Eisdell.

The Pastor of Upper Holloway Baptist Chapel.

"I give from personal knowledge my testimony to the invaluable service rendered by our Hospitals during the *past* year. I have had in my own congregation three cases which have been successfully operated upon and nursed back to health."

J. R. Wood.

The Vicar of Holy Trinity, Hampstead.

"During nearly eleven years' work in London the Hospitals have been of the greatest help to my poorer parishioners."

S. A. Selwyn.

The Vicar of St. Luke's, Hampstead.

"I do not know what we should do without the Hospitals of London. I have seen lives saved, and I know of men now at work who were consumptives."

John Salwey (jun)

The Vicar of St. Augustine's, Bermondsey.

"It would be *impossible to* alleviate a tithe of the vast amount of suffering in this parish without the aid the Hospitals are so willing to bestow."

Alfred E. Lait.

The Vicar of St. Jude's, Grays Inn Road.

"It would be almost impossible to exaggerate the benefits derived from the Hospitals by the sick poor in parishes like this. Many lives are saved and many restored to health who *otherwise* would remain permanent *invalids*."

Fred. H. Bolingbroke.

The Vicar of St. Andrew's, Bromley.

"In this very poor East-end parish I have known many, a case concerning which I have felt almost in despair. The Hospital has, however, invariably brought *relief to the sufferer and often restoration* to health."

E. L. Field.

The Missioner of Corpus Christi College Mission, Camberwell.

"What the Hospitals have done for the suffering poor in this district can never be estimated at its real value. The benefit conferred upon suffering *humanity* here is incalculable."

E. Cresswell Gee.

The Founder and President of the *East London* Mission.

"I can testify with the utmost confidence to the *immense* benefit the Hospitals have conferred upon the suffering mass with whom I have had to deal."

J. W. Atkinson.

The Vicar of St. Peter's, Great Windmill Street.

"*It is impossible to estimate too* highly the beneficent work done by Hospitals and kindred institutions amongst people *living in this congested district*."

G. Golding-Bird.

The Vicar of Holy Trinity, Tulse Hill.

"It is impossible *to* overstate the boon conferred on our poorer brethren by means of the Hospitals, and I do not know what they would *do* without them."

H. Woffindin.

The Vicar of St. Matthew's, Victoria Docks.

"I desire to add my *testimony* to the inestimable boon conferred by the Hospitals upon our poor, and I cannot conceive what we should do without the *help* which they afford."

Edward F. Evans.

The Pastor of *East Hill Baptist Chapel*, Wandsworth.

"I have known many cases where a life of pain *and misery* has been transformed *into* one of health and comfort through the *agency* of the Hospitals. Poor people *greatly appreciate the* help *they* receive, and have great confidence in the Hospitals."

W. Townsend.

The Minister of the East *London* Synagogue.

"Without the Hospitals the work of ministers of religion would be hopeless and *impossible among* the poor of East London. *The* outlook would be hopeless for pastor and flock alike."

J. F. Stern.

The Pastor of Regent's Park Church.

"We could not do for the poor of my own church what we can now do if the Hospitals did not exist."

J. ROBT. WALKER.

The Vicar of St. Paul's, Grove Park, Chiswick.

"Without the ready and efficient aid of the Hospitals I do not know what we parochial clergy would do in necessitous cases among our sick and suffering poor."

NEVISON LORAINE.

The Minister of Ilford Presbyterian Church.

"Excellent work is done by the Hospitals in caring for the not a few cases of serious trouble that have arisen amongst the members of my church."

WALTER A. GALT.

The Vicar of St. Michael's, Walthamstow.

"In a large parish like this one is constantly brought into contact with those who through the beneficent work of the Hospitals have been given back to their homes and families where otherwise they must have died."

ERNEST B. CLARABUT.

The Vicar of St. Stephen's, North Bow.

"It is impossible to estimate the saving of human life and the restoration of hope which is daily taking place all over the metropolis by means of the great Christian and philanthropic agency of the Hospitals."

HENRY A. MASON.

The Superintendent of Claremont Hall, Pentonville.

"Working in one of the poorest districts of the metropolis, we are continually indebted to the Hospitals on behalf of our people, and should be quite stranded without them."

F. W. NEWLAND.

The Vicar of St. Philip's, Arlington Square.

"The benefit of the Hospitals to the sick poor is certainly too great for individual experience to gauge."

F. M. GREEN

The Incumbent of Christ Church, Harrow Road.

"With confidence I send my poor sick people to the care of the London Hospitals, knowing well what a great work is done in them to relieve suffering, to awaken hope, and to minister to spiritual needs."

A. C. DOWNER

The Priest-in-Charge of St. Anne's Mission, Highgate.

"Only these who are spending their lives amongst the poor can have even the vaguest idea of the blessing of free Hospitals to the poorer classes; and I dread to contemplate what they would do without them."

RICHARD H. PRING.

The Vicar of St. Dionis', Fulham.

"I regard the Hospitals and their work as being the greatest of all the means by which the sum of human misery is being gradually alleviated and reduced."

WILLIAM S. CARTER.

The Vicar of St. Stephen's, Lewisham.

"Our poor people return from the Hospitals full of praise and gratitude for the benefits and kindness they have received."

H. BARON DICKINSON.

The Vicar of St. Matthew's, Fulham.

"It is hardly possible to conceive the amount of unrelieved suffering that would exist in this huge parish of 20,000 of the poorer working classes were it not for the aid so efficiently rendered through the instrumentality of the Hospitals."

W. J. S. WHITTY.

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1905.

TABLE I.—GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients—*NOT *the* NUMBER *of out-patients.*

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Charing Cross	1,401	2,455	1,326	893	191	152	229	64,470	10,395
French	439	790	90	615	172	52	33	13,591	872
German	713	1,789	504	1,052	412	109	124	73,719	2,549
Great Northern Central	1,306	2,170	1,795		91	147	227	80,578	16,538
Guy's	2,399	8,626	6,855		703	501	792	321,005	84,609
Hampstead General	279	417	—	—	—	29	32	7,550	723
Italian	249	843	183	557	45	42	16	44,196	351
King's College	1,811	2,469	883	1,098	208	192	210	42,158	6,077
London	6,769	12,857	4,806	6,184	1,708	700	1,350	571,667	15,719
London Homoeopathic	629	1,132	358	535	59	82	54	44,438	1,387
Phillips' Memorial Homoeopathic	43	137	23	101	5	7	4	2,679	17
London Temperance	962	1,257	385	693	34	83	103	24,066	16,712
Metropolitan	1,009	1,341	370	675	276	98	198	128,033	10,959
Mildmay	356	538	91	356	124	42	28	37,877	6,190
Miller Hospital and Royal Kent Dispensary	327	3 7	69	195	2	24	28	80,848	7,359
North-West London	629	631	95	426	27	42	48	44,659	7,052
Poplar	772	1,472	—	—	48	77	92	76,059	—
Queen's Jubilee	232	233	205		—	12	16	27,614	2,731
Royal Free	1,484	2,329	1,991		300	155	183	112,078	25,598
St. George's	2,292	5,133	4,212		1,378	313	384	103,024	16,669
SS. John and Elizabeth	380	251	230		60	68	17	—	—
St. John's, Lewisham	238	280	66	158	30	25	17	—	—
St. Mary's	2,981	4,298	1,319	2,962	331	237	397	123,396	23,063
Seamen's Hospital Society	1,746	2,484	613	1,407	60	223	153	95,052	—
The Middlesex Hosp. and Convalescent Home	3,233	2,993	2,193		878	262	212	113,553	24,616
Tottenham	7 2	1,269	235	757	—	68	174	71,323	11,117
University College	2,084	2,897	959	1,195	—	273	267	219,939	47,916
Walthamstow, &c.	148	472	56	339	9	35	40	11,572	1,332
West Ham	677	571	38	248	—	49	53	67,925	10,936
West London	1,247	2,471	2,135		—	120	215	103,967	10,423
Westminster	1,900	2,517	1,729		384	185	219	—	11,139
Estimated to supply omissions	£39,450 —	67,454 —	12,472 9,083	19,748 13,670	7,533 338	4,374 —	5,920 —	2,736,185 62,000	372,942 20,913
Total	£39,450	67,454	21,560	33,418	7,871	4,374	5,920	2,798,185	393,855

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* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	1,199	774	720	—	—	134	54	67,062	—
Hospital for Consumption...	2,612	1,529	1,433		—	307	101	61,744	—
Mount Vernon Consumption	993	1,086	—	—	—	150	36	—	—
Royal Hospital for Diseases of Chest	724	640	523		50	58	59	25,922	—
Royal National Hospital for Consumption...	439	817	630	—	—	133	12	—	—
Alexandra Hospital for Hip Disease	422	180	6	73	1	97	3	1,600	—
Banstead Surgical Home	30	105	23	43	22	17	—	—	—
Barnet Home Hospital	53	44	19	6	—	12	1	—	—
Belgrave Hospital for Children	113	528	—	—	66	28	138	29,852	—
Cheyne for Incurable „	178	57	3	2	8	50	1	—	—
East Lond. Hosp for „	1,069	1,587	470	800	317	102	395	89,702	4,977
Evelina Hosp. for Sick „	285	982	690		81		202	53,095	30,029
Home for Incurable „	95	45	5	—	—	33	1	—	—
Home for Sick „	154	268	232		95	60	8	4,456	3
Hospital for Sick „	1,496	2,873	—	—	401	133	328	109,776	1,445
Kensington for „	113	156	144		—	4	8	14,512	549
North-East. Hosp. for „	416	1,685	395	893	100	120	233	75,649	10,842
Paddington Green for „	380	767	241	325	137	37	92	68,037	1,650
St. Mary's for „	344	529	120	302		23	84	63,591	13,122
St. Monica's for „	83	133	104		—	20	9	—	—
Victoria Hospital for „	576	962	224	267	299	66	106	64,418	2,067
Victoria Home, Margate	48	92	59	15	—	46	1	—	—
Hospital for Hip Disease	53	67	—	23	—	37	1	—	—
British Lying-in	71	484	484	—	25	25	—	—	—
City of London Lying-in	103	611	—	610	8	28	1	19,517	—
Clapham Maternity	38	425	—	—	—	—	1	16,017	—
East-End Mothers' Home...	95	382	—	—	8	—	1	7,587	—
General Lying-in	65	614	—	—	—	—	1	20,590	—
Queen Charlotte's Lying-in	576	1,560	—	—	150	—	5	19,690	[illegible]
Chelsea Hospital for Women	386	787	683		178	46	16	9,964	—
Hospital for Women	445	888	365	382	89	55	21	15,778	—
Grosvenor Hosp. for Women and Children ..	143	329	118	188	—	15	9	14,733	—
New Hospital for Women	327	663	—	—	24	55		31,236	—
Royal Waterloo Hos. for Children and Women	238	185	85	96	6	22	19	29,746	—
Samaritan Free	511	508	77	393		34	11	14,062	—
Cancer	119	713	613		52	84	93	18,405	—
Middlesex (Cancer Wing)	334	149	—	—	—	44	76	468	—
London Fever	356	475	—	414	—	53	8	—	—
Gordon for Fistula	30	332	9	299	—	18	2	3,024	—
St. Mark's „	238	600	25	542	—	28	5	4,710	—
National for Diseases of Heart, &c.	182	176	113	—	—	23	17	18,247	—
Female Lock	293	537	447	—	—	87	3	—	
Hospital for Epilepsy, &c.	102	141	—	—	—	27	8	12,935	—
National for the Paralysed, &c.	1,437	1,082	359	208	38	154	69	41,099	—
West-End for Nervous System	336	389	338	49	6	42	2	58,796	—
Central London Ophthalmic	198	352	344		6	13	1	30,488	410
Royal Eye	356	632	—	—	—	30	2	71,008	1,833
Royal London Ophthalmic	1,283	2,051	—	—	19	73	1	129,187	1,842
Royal Westminster „	202	692	683		—	23	2	37,000	—
Western „	90	349	—	—	—	7	—	27,443	—
City Orthopædic	196		—	—	—	—	—	—	—
National „	173		—	—	—	—	—	—	—
Royal „	152		—	—	—	—	—	—	—
Royal Sea Bathing Hospital	356	570	332	77	—	92	8	—	—
St. John's Hospital for Diseases of Skin ...	36	225	204		—	21	1	32,886	—
Western Skin...	12	—	—	—	—	—	—	8,614	—
St. Peter's for Stone	89	385	354		—	11	20	41,756	—
Central London Throat and Ear	53	354	88	250	2	8	6	48,786	—
Hospital for Diseases of Throat	59	775	159	616	17	22	12	53,446	18
London Throat	40	583	578		1		3	18,787	—
Royal Ear...	32	346	311	—	—	1	3	11,366	—
Royal Dental	293	—	—	—	—	—	—	50,911	—
National Dental	27	—	—	—	—	—	—	26,075	—
	£21,955	35,250	6,225	6,883	2,205	2,81	2,300	1,668,723	68,822
Estimated to supply omissions	—	651	6,989	9,651	203	170	—	35,428	1,413
Total	£21,956	35,901	13,214	16,534	2,408	2,933	2,300	1,704,151	70,235

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund. award.	Out-patients' visits.
Battersea Provident	£131	55,240
Billingsgate Medical Mission	76	11,809
Blackfriars Provident	24	6,412
Bloomsbury ,, ...	18	3,680
Brixton, &c.	66	25,978
Brompton Provident	24	2,556
Buxton Street	30	2,697
Camberwell Provident	99	93,275
Camden Town ,, ...	19	8,285
Chelsea, Brompton, and Belgrave	59	8,466
Chelsea Provident	17	2,766
Child's Hill ,, ...	20	—
City	59	18,850
City of London and East London	12	97,171
Clapham General and Provident	28	15,979
Deptford Medical Mission	23	19,868
Eastern	43	25,740
East Dulwich Provident	51	—
Farringdon General	59	10,758
Finsbury	53	30,957
Forest Hill Provident	50	5,332
Greenwich ,, ...	39	25 245
Hackney ,, ...	20	9,920
Hampstead ,, ...	71	41.447
Holloway and North Islington	59	11,423
Islington	75	52,552
Islington Medical Mission	49	7,358
Kensal Town Provident	18.	4,491
Kentish Town Medical Mission...	24	3,500
Kilburn, Maida Vale, and St. John's Wood	49	6,536
Kilburn Provident Medical Institution ...	57	23,111
London	17	—
London Medical Mission	128	16,393
Margaret-street, for Consumption	21	6,350
Metropolitan	71	27,924
Notting Hill Provident	18	4,969
Paddington	33	9,428
Portland Town	17	—
Public	44	7,118
Queen Adelaide's	38	16,878
Royal General	27	11,948
Royal Pimlico Provident	59	30,958
Royal South London...	62	13,344
St. George's and St. James's	64	2,870
St. George's (Hanover-square) Provident ...	36	2,273
St. John's Wood Provident	56	23,400
St. Marylebone General	56	12,744
St. Pancras and Northern	35	—
St. Pancras Medical Mission	25	2,860
South Lambeth, Stockwell, & North Brixton	47	10,334
Stamford Hill and Stoke Newington	71	37,042
Tower Hamlets	55	10,179
Walworth Provident	18	6,314
Wandsworth Common Provident	17	4,338
Westbourne Provident...	21	7,373
Western	76	21,385
Western General	142	40,253
Westminster General	52	34,604
Whitechapel Provident	42	24,958
Woolwich ,, ...	23	—
	£2,804	1,016,644
Estimated to supply omissions	—	78,212
Total	£2,804	1,094,856

TABLE SHOWING THE RESULTS OF COLLECTIONS SINCE THE COMMENCEMENT OF THE FUND.

Year.	Totals.	Donations.	Year.	Totals.	Donations.
1873	£27,700	£1844	1889	£41,744	£3452
1874	29,936	1505	1890	42,814	3991
1875	28,396	1424	1891	45,330	9019
1876	27,042	1339	1892	41,512	4429
1877	26,082	947	1893	39,290	3652
1878	24,904	1199	1894	43,679	7717
1879	26,501	1120	1895	60,361	21,930
1880	30,423	1567	1896	46,035	5533
1881	31,856	1638	1897	41,003	3607
1882	34,146	2106	1898	40,397	3364
1883	33,935	1980	1899	63,604	15,310
1884	39,329	6410	1900	51 993	16,137
1885	34,320	2555	1901	54,731	18,343
1886	40,399	4817	1902	62,669	16,307
1887	40,607	4130	1903	64,975	15,756
1888	40,379	3080	1904	63,054	15,143
			1905	78,379	29,425

1884. Including £4500 from the International Health Exhibition.

1885, 1886, 1887. Including three donations of £1000 each from Dr. James Wakley, Editor of THE LANCET.

1891. Including £5000 from the late Duke of Cleveland, &c.

1894. Including a legacy of £5000 (less duty) from the executors of the late Mr. W. J. Whitaker.

1895. Including £10,000 from Messrs. Barnato and friends; £3400 from the Stock Exchange; £1000 from Lord Iveagh; and £1000 from Mr. J. B. Robinson.

From 1891 to 1896 Sir Saville Crossley, Bart., P.C., M.P., gave an annual donation of £1000, and since has divided his contribution between this Fund and King Edward's Fund.

1897. Jubilee year. H.R.H. the Prince of Wales started a Special Fund for Hospitals.

1899. Including £10,000 from Mr. George Herring, and £1050 from Mr. J. Lane Densham.

1900. Including a further £10,000 from Mr. George Herring, £1000 from Mr. Thos. King, and "F. H." £1000.

1901. Including a further £10,000 from Mr. George Herring, and £4000 from Sir F. Cook, Bart., M.P.

1902. Including a further £11,575 from Mr. George Herring, and £1000 from Mr. Charles Morrison.

1903. Their Majesties the King and Queen, with most of the other Members of the Royal Family, attended at St. Paul's Cathedral. Including a further £12,302 from Mr. George Herring.

1904. Including a further £11,926 from Mr. George Herring.

1905. Including a further £12,400 from Mr. George Herring, and £12,500 from the executors of Mr. F. W. Cook.

*** *In the preparation of the voluminous statistics of hospital work (and which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee), we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.*—ED. L.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Receipts and payments for the year ending October 31st, 1905.

Dr.

1905.		£ s. d.	£ s. d.
To Balance at Bank of England, 1st Nov., 1904		2,916 18 7	
,, Balance in hands of Secretary		6 5 11	2,923 4 6
,, Collections made at Sundry Places of Worship		48,954 2 1	
,, Collections at Schools		37 0 10	
,, Donations—City Appeal		1,298 17 2	
,, Donations		13,571 5 10	
,, Dividend on £224 15s. 2d. Consols		5 7 0	
,, One year's interest on Legacy of £10,000 from the late Herbert Lloyd		285 0 0	
,, Dividend on £45,346 1s. 3d. 2½ Consols, per Executors to the Will of W. A. Guesdon, deceased		1,133 13 0	
,, Interest on Deposit		94 10 2	
,, Legacies—			
Executors of Wyndham Francis Cook, Esq. ..	£12,500 0 0		
Executors of Joh[illegible] Esq.... ...	500 0 0	13,000 0 0	
			78,379 16 1
			[illegible] 0 7

1905.

1905.	£ s. d.	£ s. d.
By Awards to 149 Hospitals	66,994 1 4	
,, Awards to 13 Institutions	1,676 14 0	
,, Awards to 60 Dispensaries	2,804 17 6	
,, Surgical Appliances	3,512 9 11	74,988 2 9
,, Rent and Telephone	217 6 8	
,, Insurance	0 7 6	
,, Repairs	0 6 6	
,, Fuel, Lighting, and Office Cleaning ...	32 4 6	
,, Printing and Stationery	207 12 1	
,, Stamps and Postages	143 7 4	
,, Advertisements	484 9 6	
,, Salaries and Gratuities (including payment in advance)	1,236 1 6	
,, Pension to the late Secretary	250 0 0	
,, Special Appeal	712 8 8	
,, Sundries	5 2 6	3,289 6 9
,, Balance at Bank of England, 31st Oct., 1905	3,105 17 2	
,, Petty Cash	19 13 11	3,125 11 1
		£31.303 0 7

Cr.

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
etropolitan Convalescent (Walton and Broadstairs)	772	4,674	1,953	2,559	—	152	5	—	—
etropolitan Convalescent (Bexhill)	475	2,417	477	1,914	—	25	1	—	—
ll Saints' ,, (Eastbourne)	475	3,353	1,072	2,163	—	119	4	—	—
,, ,, (St. Leonards-on-Sea)	30	245	—	—	—	8	—	—	—
scot Priory ,,	99	199	—	—	—	—	3	—	—
rentwood ,,	12	—	—	—	—	—	—	—	—
haring Cross Hospital Convalescent	101	470	439		—	11	1	—	—
helsea Hospital for Women Convalescent	47	254	283		—	15	1	—	—
eptford Medical Mission Convalescent	30	171	—	—	—	—	—	—	—
rs. Gladstone Convalescent	109	673	—	—	—	—	—	—	—
riendly Societies' ,,	107	1,077	—	—	—	—	—	—	—
ahnemann ,,	47	196	145	8	—	29	—	4,265	—
Hanwell ,,	24	213	—	—	—	—	1	—	—
Hendon, Ossulston Home	66	572	—	—	—	—	—	—	—
Herbert Convalescent	36	475	225	184	—	52	2	—	—
Herne Bay (Baldwin-Brown) Convalescent	33	406	—	—	—	—	—	—	—
Homœopathic Hospital ,,	13	207	206	—	5	—	1	—	—
Hemel Hempstead ,,	66	364	83	255	—	16	1	—	—
Mrs. Kitto's ,,	59	361	—	—	—	—	—	—	—
Mary Wardell ,,	101	152	—	—	—	—	—	—	—
Morley House ,,	190	2,074	—	—	—	—	—	—	—
Alfred Bevan Memorial	251	—	—	—	—	—	—	—	—
Police Seaside Home	59	720	—	—	—	—	—	—	—
St. Andrew's (Clewer) Convalescent	119	730	—	—	—	63	4	—	—
,, (Folkestone) ,,	214	2,153	—	—	—	64	1	—	—
St. John's Home for Convalescent Children	32	339	—	—	—	—	—	—	—
St. Joseph's Convalescent	71	666	501	134	—	40	5	—	—
St. Leonards-on-Sea ,,	131	901	—	—	—	—	—	—	—
St. Mary's ,,	26	105	—	—	—	7	—	—	—
St. Michael's ,,	42	302	—	—	—	—	—	—	—
Seaside ,,	143	—	—	—	—	—	—	—	—
Fairlight ,,	24	166	—	—	—	22	2	—	—
Acton Cottage Hospital	71	213	23	170	—	7	19	4,725	1,000
Beckenham Cottage Hospital	103	232	29	223	—	12	13	—	94
Blackheath and Charlton Cottage Hospital	107	192	122	139	9	15	11	4,204	52
Bromley, Kent ,,	143	532	123	356	30	21	20	—	143
Bushey Heath ,,	43	142	13	111	1	11	3	1,461	—
Canning Town ,,	64	121	33	73	34	—	8	2,497	—
Chislehurst, Sidcup, &c., ,,	71	231	12	171	—	14	15	—	—
Coldash ,,	26	73	23	25	—	20	—	—	—
East Ham ,,	77	193	11	143	—	15	12	18,425	—
Eltham ,,	56	167	27	115	3	7	11	—	20
Enfield ,,	90	254	3	142	—	15	7	—	21
Epsom and Ewell ,,	72	102	14	71	14	6	4	—	18
Hounslow ,,	65	162	18	125	—	6	12	3,377	332
Dartford ,,	106	151	13	130	—	14	8	—	54
Kingston, Victoria Hospital	61	163	42	154	20	12	6	—	46
Mildmay Cottage Hospital	19	201	92	50	29	22	8	—	—
Reigate and Redhill ,,	157	523	33	319	—	31	12	—	124
Sidcup ,,	36	193	37	133	6	6	11	570	—
Tilbury (Passmore Edwards) Cottage Hospital	59	—	—	—	—	—	—	—	—
Willesden ,,	152	253	231		—	15	20	—	—
Wimbledon ,,	55	149	14	120	—	7	7	70	31
Wimbledon, South, ,,	55	207	11	177	—	7	9	—	113
Woolwich and Plumstead Cottage Hospital	62	100	30	52	5	6	7	—	43
Bolingbroke Hospital	297	592	73	434	—	29	56	27,014	6,073
Hospital for Invalid Gentlewomen	119	164	16	154	—	13	1	—	—
St. Saviour's Hospital and Nursing Home	120	139	37	65	—	10	5	—	—
National Sanatorium for Consumption	119	401	—	—	—	23	5	—	—
Invalid Asylum	53	212	56	125	8	23	—	—	—
Firs Home	24	60	23	—	—	19	13	—	—
St. Catherine's Home	30	41	25	—	—	12	4	—	—
Friedenheim Hospital for the Dying	363	143	20	—	4	44	102	—	—
Oxygen Home	39	93	10	57	—	21	—	—	—
Santa Claus Home	71	53	40	—	—	20	—	—	—
Free Home for Dying	154	74	35	—	—	23	44	—	—
St. Luke's House	143	96	18	—	—	30	54	—	—
Royal Mineral Water Hospital	59	1,123	1,053	40	40	143	2	—	—
	£7,376	32,604	6,811	11,193	203	1,363	541	66,628	8,169
Estimated to supply omissions	—	1,487	4,187	9,607	—	393	45	1,374	—
Total	£7,376	34,091	10,998	20,800	203	1,756	586	68,002	8,169

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
General Hospitals	£39,450	67,454	21,560	33,418	7,871	4,374	5,920	2,792,155	393,855
Special Hospitals	21,955	35,901	13,214	16,534	2,413	2,983	2,300	1,704,151	70,235
Cottage Hospitals and Convalescent Homes	7,376	34,091	10,998	20,800	203	1,756	586	68,002	8,169
Dispensaries	2,904	—	—	—	—	—	—	1,094,956	—
Total	£71,585	137,446	45,772	70,752	10,487	9,113	8,806	5,665,194	472,259

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THE METROPOLITAN HOSPITAL SUNDAY FUND.

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To Balance at Bank of England, 1st Nov., 1904		2,916 18 7	
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,, Donations		13,571 5 10	
,, Dividend on £224 15s. 2d. Consols		5 7 0	
,, One year's interest on Legacy of £10,000 from the late Herbert Lloyd		285 0 0	
,, Dividend on £45,346 1s. 3d. 2½ Consols, per Executors to the Will of W. A. Guesdon, deceased		1,133 13 0	
,, Interest on Deposit		94 10 2	
,, Legacies—			
Executors of Wyndham Francis Cook, Esq.	£12,500 0 0		
Executors of John Cohen, Esq.	500 0 0	13,000 0 0	78,379 16 1
			£81,303 0 7

Cr.

1905.	£ s. d.	£ s. d.
By Awards to 149 Hospitals	66,994 1 4	
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,, Sundries	5 2 6	3,289 6 9
,, Balance at Bank of England, 31st Oct., 1905	3,105 17 2	
,, Petty Cash	19 13 11	3,125 11 1
		£81,303 0 7

and correct, this 17th day of November, 1905.

Basinghall-street, E.C.

the whole, probably greater and more conspicuous in the United States than even among ourselves, but they are severe enough with us. Their removal, however, so far as legislation can effect it, can only be accomplished by measures which clearly have not been designed for the protection of medical men rather than for the protection of the public. This is why some of the efforts for the mitigation or removal of professional abuses, which have found favour among many in this country, seem to us to be foredoomed to failure. These efforts have often been of a kind calculated to create antagonism between the profession and the legislature and, secondarily, between the profession and the public, and it is manifest to common sense which of the antagonists, in either case, would have to endure the consequences of defeat. The true policy of the medical profession, we are convinced, is to identify itself with the interests of the public and never to act in even apparent opposition to them. To quote once more the hackneyed phrase, we should strive to educate our masters, to produce an enlightened appreciation of the aims and tendencies of medicine, and to show that the evils of which we complain are far more injurious to the body politic than to our own limited community. We have arrayed against us, no doubt, a great body of "commercialism" under its worst aspects, the quack, the abortionist, the quack medicine seller, and the not inconsiderable body of traders who live by the preparation and advertisement of worthless compounds of various kinds. The impatience of professional dictation which characterises so large a proportion of the public must necessarily be aroused by any attempt to suppress the practices of these persons unless it is shown beyond a shadow of doubt that the benefit of such suppression will accrue to the public and not to our own class.

Annotations.

"Ne quid nimis."

THE REFORM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ALL our readers know that we consider the position of the Members of the Royal College of Surgeons of England to be a very unfair one. The Members form more than eleven-twelfths of the College and supply the funds upon which the College exists, but are permitted no voice in the management of the College. They cannot sit upon their governing body, they cannot even exercise a vote in the selection of that governing body, while the governing body chooses the representative who speaks with the voice of the College at the council board of the General Medical Council. The present President of the College, Mr. Tweedy, whose knowledge of the constitutional history of the body over which he presides is unrivalled, demonstrated in our columns, in an article which afterwards appeared as a pamphlet and which has been widely quoted by all reformers, that the position of the Members is unfair, and over and over again prominent Fellows of the College have signified their adherence to this view. Why, then, does not reform follow? We are constrained to think that the Members themselves are in fault, that their apathy in bulk and the methods of their mouthpieces have prevented any change from taking place. We admit this with regret because we have always been desirous of promoting the cause of just reform, but knowing all the facts we can see no other explanation of the situation. The Members have not shown any power of union or any tact or discretion. If a really considerable number out of the 18,000 (including Fellows) would associate themselves to make a demand for a hearing, and would agree upon what they should ask for as a minimum, it is certain that they would obtain an answer; and inasmuch as election to the Council of the College does not deprive a man of his reason or his morality, it is equally certain that that answer would be prompt, would be reasonable, and would lead to amicable discussion for the removal of grievances which are admitted on all sides to exist. But the College authorities are certainly right in asking that they should know the number of those who demand a hearing, while the proposals for reform should be set out by persons who know the history of past efforts and who can appreciate the difficulties of the present situation. We publish this week a letter from Dr. W. G Dickinson, honorary secretary of the Society of Members of the Royal College of Surgeons of England, in which he explains that he had no intention of suggesting that an attempt had been made by the Council of the College to nobble the Privy Council by asking the secretary of that august body to dinner. The suggestion was in his letter and we are glad to note that it got there by accident, but it is the sort of accident that should not occur and which renders the course of constitutional reformers doubly difficult. Ten years ago, we have reason to know, the Members of the College had every chance of obtaining representation upon the Council. Their just claims were supported by a powerful section of the Fellows, and if they could have exercised a little more patience the victory would have been won, a result that would have been especially grateful to us who had so long been associated with the movement for reform. Suddenly a group of Members found that the reform party was not moving fast enough, what was termed "plain speaking" was indulged in, mistakes were made, tried friends were alienated, and the cause of reform slipped back to where it now is. There are no reasons but two why that cause should not again emerge and we have mentioned them both: they are the apathy of the Members and the tactlessness of the spokesmen. Cannot the whole movement be re-organised?

THE BATTERSEA BOROUGH COUNCIL AND ITS MEDICAL OFFICER OF HEALTH.

IN THE LANCET of March 24th a correspondent called attention to the unusual conditions which the Battersea borough council had attached to the appointment of medical officer of health, then vacant. As a result of revision of the council's standing orders the new officer was required to carry out his duties by a system of "coöperation and conference" with the chief sanitary inspector of the borough. This system was further developed by a new clause in the standing orders stipulating that the medical officer was only to communicate with the various sanitary inspectors, male and female, through the medium of the chief sanitary inspector. In short, save for certain provisions regarding infectious diseases, the orders had the effect of preventing the Battersea medical officer of health from occupying his proper position as chief of the sanitary department. Public health administration in Battersea has in recent years been distinguished for initiative and success in dealing with many of the problems presented by a London working-class district, and it was easy to see that the new scheme was retrograde and if it took effect that it would seriously cripple the efficiency of the sanitary service. The matter has attracted considerable attention, partly from the fact that the borough is represented in Parliament by the President of the Local Government Board and partly because of the great objection to the introduction into London, in an exaggerated form, of a system of dual responsibility which has notoriously broken down in Glasgow and other cities. We are glad to learn that the Battersea borough council has now reconsidered the whole question in consequence of representations from the Local Government Board and the London County Council and has decided to delete the clauses to which so much objection has been taken.

THE CHICAGO STOCKYARDS AND THE MEAT SCANDAL.

WE have every reason to congratulate not only ourselves but the public at large on the fact that the scandal of the Chicago stockyards and packing-houses has come to a head. Our readers will remember that in January, 1905, we published a series of four reports from our Sanitary Commissioner describing what he had just seen at Chicago. The denunciations then made have since been reinforced by the publication of a novel called "The Jungle," written by Mr. Upton Sinclair. What with the controversy which our reports occasioned and the sensational interest created by this novel some knowledge of the evils depicted have reached the President of the United States; consequently there is now every hope that something effective will be done. Mr. Neill and Mr. Reynolds were appointed to report on the matter to the President and they have issued a preliminary report. According to the Chicago correspondent of the London *Tribune*, a synopsis of this report has been published and we are told that:—

> The report describes the condition of the six plants inspected as filthy, insanitary, and unhygienic. The walls and floors, it is stated, were saturated with blood and grease and were well qualified to convey disease. No attempt was made to exercise ordinary cleanliness. No means of ventilation were provided in some of the rooms, with the result that nauseating odours prevailed. The employees expectorated on the floors, on which some of the chopped meat frequently fell. The men could thus easily gather bacilli on their boots and transmit them to the meat.

The above lines read like a summary of the description which we published notably on Jan. 14th, 1905. Thus on p. 122 of that issue will be found the following lines:—

> In a short time the bullock, whether it has bled sufficiently or not, and while still warm, will reach one of the darkest, lowest, and worst ventilated portions of this huge and gloomy building. Here the entrails are taken out The dirtiest work is done in the closest, the darkest, and the dirtiest place, instead of being carried on in the open air or under such slight shelter as would not prevent the free access of air and sunshine. It would be quite impossible to disinfect such premises. There are innumerable rafters, sharp angles, nooks, and corners where blood, the splashing of offal, and the sputum of tuberculous workers can accumulate for weeks, months, and years.

Then a little further there occurs this passage .—

> It is obvious that work of this description—the manipulation of animal substance intended for food—should be done only in the broadest daylight and in the purest atmosphere. In these dark places the meat falls on the floor and comes in contact with the dirt from the boots of the workers and the bacilli from the sputum of a population among whom pulmonary tuberculosis is more prevalent than among any other section of the inhabitants of Chicago.

Thus apparently the official report confirms our report. The evils which we denounced some 18 months ago are now being re-echoed by the press of all countries. In political newspapers and many other publications the facts to which we bore witness are being stated and re-stated, so that now it will be quite impossible to go back on these disclosures. The American public is thoroughly roused and the public in Europe is likewise taking precautions. The stockyards of Chicago will not be allowed for much longer to continue their barbaric and insanitary methods of preparing meat for human consumption. The part which we have had the opportunity of playing in bringing about this great and beneficial outcry will not fail to be recognised and the public may now hope to escape from a danger which was yearly increasing in magnitude. We shall return to this important question at length when a few more facts have been ascertained in regard to the more recent measures taken at Chicago. We have received from Messrs. Armour and Co. of Chicago, &c., the following disclaimer:—

> All beef, pork, mutton, or other food products, canned or otherwise, shipped from our packing houses are inspected by United States Government inspectors, who have full and free access at all times to all parts of our plants in accordance with the Act of Congress, March 3rd, 1891, which provides "that the Secretary of Agriculture shall cause to be made careful inspection of all live animals and the meat thereof intended for export, and that no steamer may clear from our ports carrying meat products until the certificates of the Department of Agriculture shall have been obtained and filed with the proper port authorities." Further, all cattle, sheep, and hogs which are the subject of interstate or foreign commerce are inspected both before and after slaughter. Furthermore, any carcass, or part thereof, found by the United States Government inspectors to be in any way diseased or unfit for food is condemned by, and destroyed under, the personal supervision of the United States Government inspectors.

THE TREATMENT OF CEREBRAL, SPINAL, AND NEURAL PARALYSES AND ATHETOSIS BY TRANSPLANTATION OF NERVE.

IN an important paper published in the *American Journal of the Medical Sciences* for March Professor W. G. Spiller, Professor C. H. Frazier, and Dr. J. J. A. van Kaathhoven point out that transplantation of nerve opens a new field for the treatment of selected cases of paralysis, whether cerebral, spinal, or neural, and also for the treatment of athetosis. The operation was first performed for the treatment of anterior poliomyelitis by Peckham.[1] In a case of ten years' duration he cut two of the four branches passing from the internal popliteal nerve to the heads of the gastrocnemius and inserted them into the diseased nerve. After six weeks the toes could be extended—a motion previously impossible. No weakness in the gastrocnemius and soleus muscle was apparent but the result was not considered very gratifying and his paper received no attention. In 1902 Professor Spiller independently suggested that transplantation of nerve should be tried in cases of anterior poliomyelitis in which the paralysis was not very extensive. The first operation was performed by Dr. Young at his request in December, 1902. In February, 1903, some return of power could be observed and this subsequently became distinct. The central end of an efferent fibre can make functional connexion with the peripheral end of any other efferent fibre. This is the physiological law upon which is based the treatment of paralyses by transplantation of nerve. Several methods have been adopted which have given variable results but the cases are yet too few for any conclusions as to their relative value. The methods are lateral anastomosis of the peripheral segment of the nerve supplying the paralysed muscles into a normal nerve, lateral anastomosis of the central end of a segment split from a normal nerve into the affected nerve, end-to end anastomosis of the peripheral segment of the affected nerve with the central end of a segment split from a normal nerve, and end-to-end anastomosis of both the central and peripheral ends of the affected nerve into the split segments of a normal nerve. At the meeting of the Deutsche Gesellschaft für Chirurgie in 1903 Hackenbruch reported that he had inserted a third of the tibial nerve into the paralysed peroneal nerve in a case of poliomyelitis. Slight improvement was seen four months after operation, and one and a half years after movements of the foot were good and the patient could elevate himself on his toes and stand on the foot alone. The limb had become one centimetre longer and the foot had become larger. The limb as a whole was a little weaker than the other. In 1904 Dr. Wilfred J. Harris and Mr. V. Warren Low reported to the Clinical Society a case of cure of infantile paralysis of the shoulder by nerve grafting.[2] The atient was a child, aged 20 months, with complete paralysis f the right deltoid, supra- and infra-spinatus muscles, wasting, and reaction of degeneration. Four months after he attack, there being no signs of recovery in spite of massage and galvanism, the fifth cervical nerve was split ongitudinally; its upper half, containing the majority of ibres for the suprascapular and circumflex nerves, was cut across and its distal end was sutured into a nick in the sixth nerve. Six months later signs of recovery were noticed. 15 months after operation the child could raise the arm above the head. In violent athetosis the muscles hypertrophy from constant use, the flexors in the upper limbs being usually much more powerful than the extensors. It occurred to Professor Spiller that if some of the excessive innervation of the flexors were "switched off" by transplantation of nerve a more normal relation between the muscles might be established and the movements diminished. A young man under his care had suffered from violent athetosis of the upper limbs during all his life. The muscles were much hypertrophied and the flexora were much more powerful than the extensors. Professor Frazier performed lateral anastomosis of the divided median and ulnar nerves to the musculo-spiral nerve in the left arm. After the operation the movements of the arm diminished. A month later, to control the athetoid movements of the shoulder, the circumflex and musculo-spiral nerves were divided and end-to-end anastomosis was performed between the central end of one and the distal end of the other and *vice versâ*. After six months there was little jerking of the limb and the fingers and wrist could be partially flexed, the forearm normally flexed, and the arm partially raised.

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[1] Providence Medical Journal, January, 1900.

[2] THE LANCET, Oct. 22nd, 1904, p 1152.

ANARCHISM AND ASSASSINATION.

"THE thrill of horror," writes an Italian correspondent, "that ran through Italy at the fiendish attempt on the King and Queen of Spain was followed next moment by a sense of relief that the perpetrator was not an Italian, only to return in greater force with the announcement that a plot had been unveiled at Ancona to assassinate her King and Queen. Bitterly she is made to feel that, with all her material development, there has been no moral advance sufficiently potent to check the destructive forces within her organism, and that a part of her population, certainly not lessening, if not actually increasing, is determined on vindicating for her the sinister title of 'la terra classica' of homicide. Her own science, as she is pleased to claim it, of 'criminal anthropology,' at its recent and most successful congress at Turin, had free scope in its enumeration and analysis of the causes of this lethal spirit, but in its dealing with the remedy it could do little more than point to a number of antagonising forces which may one day minimise, if not extinguish, the malady. Temperament, in which the emotions are in the ascendant, culminating in a jealousy quick to resent and prompt to act, explains not a little of the homicidal impulse, especially when the knife is the universally recognised weapon of attack or defence. '*Vendetta*,' traditional in the popular mind, fostered by an absolute distrust of the law for protection or reparation, and elevated to something like a duty by the teaching of the Revolution and its theory of the 'moral dagger,' has also its place in the 'conditions precedent' of the phenomenon. 'Miseria' or hardness of living, which makes incarceration almost welcome and robs death of half its terrors, may also account for the readiness to defy the legal tribunal, especially when this has no longer the power to inflict capital punishment. All those incentives to lethal crime common to Latin countries and most pronounced in their typical representative Italy, seem still unaffected by countervailing influences of any kind and will, it is feared, for a long time to come continue to make the said countries, and their Italian sister more particularly, the recruiting ground for the minions of anarchism. The congress convened in Rome some seven years ago to suggest common action against the anarchist and his methods came to no practical conclusion but not a few suggestions were tabled and discussed which, if carried into effect, would make the 'rôle of regicide' not quite so fascinating for the majority of such 'saviours of society.' Vanity, conspicuous in such 'degenerates' as Luccheni, who murdered the Empress of Austria, or Angiolilli, who assassinated the Spanish Premier Canovas, would lose strength as a motive if the trial succeeding the crime were conducted with less publicity. Again, the imitative instinct so accentuated (according to Lombroso) in the 'pithecoid' man 'would find less pabulum to feed upon were the public press to agree to a common minimising of detail in its reports of such crimes.' Obvious procedure such as this might be adopted with advantage. But society, it is feared, must wait till the slow process of self-rehabilitation and development on healthier lines has achieved its legitimate results and made the profession of the anarchist and the lethal rôle of his minion as much a thing of the past as the mediæval 'trial by torture' or the death penalty as doled out by the 'Virgin of Nürnberg.'"

BALNEOLOGY AND BALNEO-THERAPEUTIC TREATMENT.

AT a meeting of the British Balneological and Climatological Society held on May 16th Dr. Frederick T. Roberts read a paper entitled "Some General Comments on Balneology and Associated Methods and on Spas." After a short reference to balneology in the home and in ordinary life, and to sea or ocean bathing and treatment at so-called "marine spas," he next proceeded to deal at more length with the employment of balneological and associated methods for definite therapeutic purposes which medical practitioners could utilise in the treatment of a variety of morbid conditions. In illustration of this aspect of his subject Dr. Roberts referred to the use of warm or hot baths and local application of moist or dry heat for different purposes; antipyretic, balneological, and other measures, primarily intended to bring down bodily temperature but often beneficial for other purposes in febrile cases; local application of cold, especially by means of the ice-bag, in the treatment of internal inflammations and other morbid states; disinfectant and anti-parasitic methods applied to the skin; treatment of different kinds for cutaneous affections, including the application of the Roentgen rays and light and colour treatment; diaphoretic measures for producing free sweating; treatment for arthritic morbid conditions; the use of special baths for syphilis; a variety of methods applied to affections of the nervous system; and the Nauheim treatment as carried out in this country, either privately or in hotels or certain institutions. Another practical and highly popular outcome of balneology is what has been more particularly described as "hydrotherapeutic treatment" or "hydrotherapy," which is methodically carried out in hydropathic establishments. These institutions are now in considerable number in this country and many of them occupy most salubrious positions, are situated in the midst of highly attractive scenery, and are really most comfortable or even palatial and luxurious The original intention of a "hydro" was to practise a systematic water treatment, or so-called "water cure," aided by attention to general measures, but nowadays the treatment has to a great extent lost its primary simplicity and in some instances all the most recent scientific methods and appliances have been introduced. Attention was called to the necessity of the therapeutic work in such establishments being under the immediate supervision and control of a properly trained medical staff. He also referred to the relations existing between the medical profession generally and the residents at these establishments and urged the desirability of more cordial coöperation between them. Coming to the last division of his subject—namely, treatment at spas—Dr. Roberts defined a spa as a locality in which there existed either a natural hot (thermal) spring of simple or so-called "indifferent" water, or springs of mineral water, varying much in composition, and where establishments were provided for the systematic treatment of patients by these agencies. He mentioned that the term "balneo-therapeutics" has been specially applied to the external and internal use of these natural mineral waters and thermal springs. He alluded to the general groups into which they have been divided and summarised the methods of treatment which are adopted at different spas. Incidentally he spoke in favour of the leading spas in this country as well as of the possibilities in this direction afforded by our colonies. He also dwelt upon the deep sense of responsibility, more especially in relation to spa treatment, which ought to be realised by the medical man advising such treatment, as well as by those carrying it out, who should be competent resident practitioners having full knowledge and experience of the agencies and methods at their command and of their practical application. Finally, Dr. Roberts urged that a more intimate personal acquaintance, with mutual coöperation and more frequent opportunities of practising the courtesies of social life, ought to help materially in bringing about a closer union between the medical profession generally and those of its members who devote their lives and energies to spa treatment.

THE USE OF RUBBER GLOVES IN MEDICAL WARDS.

IN THE LANCET of June 2nd, p. 1533, we published an article by Dr. T. W. Clarke, late resident physician at Lakeside Hospital, Cleveland, U.S.A., advocating the use of rubber gloves in medical wards. The employment of such gloves in surgical operations, especially when pus is likely to be present, is becoming more and more general, but for routine use in the medical wards they are not likely to be adopted generally. The operations in medical wards are usually of a slight nature and consist mainly of paracentesis and the introduction of Southey's tubes. In these instances the importance in cleanliness of the instruments employed cannot be exaggerated, but infection is not likely to arise from the operator's hands if the ordinary care obligatory on every practitioner is carried out. The use of gloves, however thin, does, in the opinion of many surgeons, interfere to some extent with the sense of touch and manipulation. Therefore with regard to some conditions mentioned by Dr. Clarke, such as those that require digital examination of the rectum or of the uterus, the use of gloves, although possessing the advantages claimed by him, may partially obliterate the delicate tactile sense necessary for making a correct diagnosis. Dr. Clarke, however, maintains that "as much can be made out with a glove as without one." With regard to certain other points in Dr. Clarke's paper we are more in accord. The majority of cases of infectious diseases are now treated in special hospitals, but in the wards of general hospitals cases of typhoid fever and of the summer diarrhœa of children are still admitted and without any evidence of danger to the other patients in the wards. Occasionally, however, nurses and medical officers contract typhoid fever in the performance of their duties. The nurses receive full instruction as to the importance of thoroughly disinfecting their hands after touching the patient or his clothing and after removal of the excreta and we believe that, as a rule, the cleansing of the hands is thoroughly carried out. Nevertheless, Dr. Clarke's remarks on this subject are worthy of consideration and his account of an epidemic of typhoid fever in Cleveland in January, 1904, in which rubber gloves were extensively employed by the nurses, is certainly suggestive. Not only was the risk of infection lessened by the use of the gloves but it was found that the hands of the nurses, previously rendered cracked and sore by frequent soaking in carbolic acid resumed their normal healthy condition. The gloves were strong and large so that no time was lost in the difficulty of putting them on and taking them off again. The adoption of such gloves in fever hospitals may thus prove of considerable advantage. In this country severe epidemics of "summer diarrhœa" or of "vulvo vaginitis" are uncommon but should such occur the use of rubber gloves by the nurses might prove of great advantage.

ROYAL INSTITUTE OF PUBLIC HEALTH.

THE summer session of the Royal Institute of Public Health opened on June 7th, when Lieutenant-Colonel W. B. Leishman, professor of pathology in the Royal Army Medical College, delivered a lecture on Pathogenic Spirochætæ. On June 14th Dr. Louis W. Sambon, director of the Department of Parasitology in the Institute, will take for the subject of his discourse the Rôle played by Animals in the Causation and Transmission of Disease. This will be illustrated by lantern slides, a large number of coloured diagrams by Signor Terzi, and microscopical and other specimens. On June 21st Lieutenant-Colonel R. J. S. Simpson, C.M.G., professor of tropical medicine in the Royal Army Medical College, will deliver a lecture on Some Features of the Occurrence of Enteric Fever in the British Army. On June 28th Dr. S. Monckton Copeman, F.R.S., medical inspector to the Local Government Board, will discuss the Prevalence of Cancer, thus leading up to the last lecture of the session, which will be delivered by Professor G. Sims Woodhead, professor of pathology at the University of Cambridge, who will deal with some of the questions raised by recent researches on Cancer. The lectures will be delivered in the lecture theatre of the institute, 37, Russell-square, London, W.C., at 5 P.M. on the various Thursday afternoons, and all persons interested in the subjects dealt with are invited to attend.

COCOANUT OIL AS AN ARTICLE OF FOOD.

OWING to the relatively high price of butter there is a growing demand for cheaper fatty foods, especially among the poorer classes. Attention has already been called in THE LANCET to the nutritive value of margarine and ordinary dripping, and during the past few years cocoanut oil has found much favour as an article of diet. In the first number of the *Philippine Journal of Science*[1] a series of papers deals with the cultivation of the cocoanut palm and the production of the oil. The nuts are split in two, the "milk" being allowed to run to waste, and dried in the sun or in a kiln for a few days. The "meat" is then removed from the shell and further desiccated, when it forms the copra of commerce. A number of nuts which were stored for six months and had not sprouted were found to contain 20 per cent. of shell, 34 per cent. of "milk," and 46 per cent. of "meat," equivalent to 19·5 per cent. of copra or 12·4 per cent. of oil, the percentages being calculated on the weight of the nuts free from husks. The dried copra therefore contains over 63 per cent. of oil. Analysis showed that on an average the fresh "meat" of a cocoanut contains

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[1] Published at Manila by the Bureau of Science of the Government of the Philippine Islands.

3 grammes of nitrogen, 2·475 grammes of potash, and grammes of phosphoric acid. It is of interest to note the "milk" of the coconut contains on an average 1·542 ames of nitrogen, 1·313 grammes of potash, and 0·171 ame of phosphoric acid. The analytical data given are io means exhaustive but they are sufficient to show that egards the high yield of oil and the presence of conrable amounts of nitrogen, potash, and phosphoric acid coconut possesses a distinct nutritive value. As oanut oil has been largely employed as a food without the duction of unfavourable results, and as it is sold at less n half the price of butter, there would appear to be good sons for the further extension of its use as an alternative butter, especially since its peculiar flavour has been minated by a process of purification.

REFORM IN THE ARMY MEDICAL SERVICE.

THERE was published in the *Times* of Wednesday last a ry interesting letter from Mr. Brodrick, who, of course, as Secretary of State for War at the time of the outh African struggle. Mr. Brodrick's letter dwelt with erfectly legitimate self-congratulation upon the improveents that were made in the Royal Army Medical orps during his momentous service as a Minister of the rown. The reforms introduced in 1901 and 1902 in espect of pay, terms of service, and study-leave of the orps were welcomed by us at the time when they were instituted as evidence that the War Office had at last realised the absolute necessity for reorganising the service; and there is no doubt that these reforms followed closely the recommendations of Mr. Brodrick's committee. The comparative popularity of the service since the institution of the important changes contained in the present Warrant is attested by the increased number of candidates and is in accordance with our prognostications. The service is still not an ideal one, but the new Warrant has been successful and better things may follow. In Mr. Brodrick's scheme the Director-General of the Army Medical Service had a seat at the board of the Army Council. He has since been relegated to a place in the Adjutant-General's Department. This is an error which time may set right and we do not take an unduly sanguine view when we look forward to the Royal Army Medical Corps in the near future attracting a regular supply of able, progressive, scientific medical men. But Mr. Brodrick's letter goes on to point out how unsatisfactory is the position of the army medical officer during a campaign, and, attributing much of the difficulty of organisation to the ignorance of the combatant officers with regard to sanitation and all allied subjects, he suggests that every cadet at Sandhurst or Woolwich should be examined on passing into the actual army upon the elements of military hygiene. The comparative immunity of the Japanese army from disease during the recent war with Russia was certainly due to the knowledge, not only by their combatant officers but also by the rank and file, of the simpler proceedings of preventive medicine; and it is certain that if our officers and men had been as far-sighted and as generally well informed during the South African war our tale of sick and dead would have been a less appalling one. This alone is a sufficient proof of the value of Mr. Brodrick's suggestion, and we are sure that the whole not only of the Army Medical Service but of the medical profession will be glad to learn that Mr. Haldane is giving serious attention to the matter.

A TELEGRAM from the Governor of Hong-Kong received at the Colonial Office on May 29th states that for the week ending May 27th there were 116 cases of plague and 116 deaths from the disease. As regards the Cape Colony the medical officer of health of the colony states that for the week ending May 12th there were no cases of plague.

THE annual Bolingbroke lecture in connexion with the South-West London Medical Society will be delivered by Mr. Edmund Owen on "Some Stray Thoughts upon Tuberculosis" on Wednesday, June 13th, at 9 o'clock P.M., at the headquarters of the 4th Volunteer Battalion East Surrey Regiment (opposite Clapham Junction Station). Members of the profession desiring to be present will be welcomed.

THE Council of Epsom College has unanimously resolved to recommend to the Governors at the annual general meeting on June 29th that Mr. Henry Morris be appointed treasurer to the College in place of Sir Constantine Holman.

THE death is announced of Sir Willoughby F. Wade, consulting physician to the Birmingham General Hospital, and an ex-President of the British Medical Association.

Sir Frederick Treves has undertaken to deliver a lay sermon on Hospital Sunday, June 17th, at 11 A.M., in Union Chapel, Islington.

King Edward VII. Sanatorium at Midhurst will be formally opened on Wednesday next, June 13th, at 4.30 P.M., by the King in person, who will be accompanied by the Queen.

THE HARBEN LECTURES FOR 1906.[1]

Delivered at King's College (University of London) on May 25th, 28th, and 30th, 1906,

BY PROFESSOR ELIE METCHNIKOFF.

LECTURE III.[2]

Hygienic Measures against Syphilis.

SINCE it had been shown to be possible to guard both the skin and the alimentary canal against the attacks of insects and of entozoa conveying the virus of disease, one might imagine that it would be far easier to preserve oneself from the virus that man transmitted to his like. In fact, flies and mosquitoes flitted freely round and it was often difficult to avoid or to seize them, whilst they could sting even through the clothes. The ova and larvæ of intestinal worms found their way into the human body most frequently in food and drink. Yet, in spite of so many difficulties, it was possible to eliminate the danger of contamination by the viruses which accompanied those lower animals. How, then, did it happen that man ran a greater risk of being infected by a virus existing in other men? Man was the principal source of contagion in tuberculosis, influenza, and many other diseases of the respiratory organs. Man, again, carried about and communicated without intermediary the virus of venereal diseases. Since, then, both the organism which furnished and the organism which received the virus belonged to the human class, provided with the power of sense and of reasoning, it might appear simple and easy to avoid all danger. But in reality it was not so. Thus, according to Lenoir in Paris among 100 men at least from 13 to 16 infected individuals might be counted. It was mainly the young people who paid the greatest tribute to the disease. Soldiers and sailors, selected as they were from amongst the hardiest of the nation, suffered from it most frequently. In the English army the number of days on which soldiers were off duty for syphilis had nearly trebled during the time from 1880 to 1897, whilst the number of men had only been doubled in that period. The greatest increase observed was in the number of secondary lesions At Netley Hospital in 1897 about one-third of all the patients were suffering from venereal diseases, the number of which showed an increase of 15 per cent. in 15 years.

It was useless to insist on the great frequency of syphilis among those persons in whom it was, if he might use the term, a professional disease, for everyone was sufficientl well informed on that head. But he thought it might be wort while to call attention to the great number of cases of non venereal syphilis. In some countries where the precept of hygiene were hardly at all observed, the inhabitants o which lived in a most extraordinary promiscuity, infections were of very common occurrence. In such cases syphilis chiefly attacked the children. In that respect the syphilis of the rural population of Russia presented features of special interest. In Russia the promiscuity, the indigence, and, above all, the ignorance of the rural population, as well as the entire absence of sanitary measures, were the reasons for the ever-increasing spread of the disease. After penetrating into an obscure hamlet 30 or 60 miles away from the habitation of a medical man, the disease of necessity established itself at every hearth and spared none. This terrible dissemination was not brought about by prostitutes but most commonly the little children, by their games and their caresses, sowed the infection broadcast. No one doubted the great frequency of syphilis, but there were many even among the medical profession who did not believe that the disease had a great influence on mortality. They said that it was amenable to treatment and that syphilitic persons might live long. It was quite true that syphilis by itself was not a fatal disease. In so-called malignant syphilis there evidently existed some secondary infection which became generalised and was fatal through septicæmia. Syphilis, however, was one of the most important causes in shortening human life and in bringing about mortal diseases.

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[1] These lectures were delivered under the auspices of the Roy Institute of Public Health.

[2] Lectures I. and II. were published in THE LANCET of June 2nd 1906, p. 1553.

Next to tuberculosis, syphilis played the most important rôle in the death-rate of persons whose lives had been insured—i.e., of the most vigorous part of the population. For a long time the dread of syphilis had been general and there were frequent cases in which victims of the disease had committed suicide. That fear was partly caused by the prospect of disfigurement by tertiary lesions and partly by the dread of becoming a source of infection to their fellow-creatures. Yet suitable treatment and hygienic precautions might to a great extent lessen that evil, for tertiary syphilis was rare amongst persons who had received proper treatment. It was the fear of the numerous diseases following in the train of syphilis which rendered life unbearable to the persons who had acquired it. It had been said that syphilis spread above all because the young folk were ignorant of the great danger that they were running into and it was urged that they should be taught; young boys and girls should be given some ideas on venereal diseases and into their later teaching should be introduced a chapter on that question. But the answer to those suggestions was that that reform would give rise to many objections without being sufficiently effective; for they all knew that, in spite of having been adequately warned, young medical men and students of medicine furnished a large proportion of victims. Ignorance was, therefore, not the only cause. As one of the strongest measures against syphilis early marriages had been recommended. Young people should, it was said, marry early so as to escape infection. But it was rarely possible for young men to marry before they had finished their course of studies. Now it was well known that syphilis was found only too often in scholars of the public and high schools as well as in young girls who had not come of age. Therefore one would have to advise the marriage of minors which was contrary to the principles of evolution. Professor Metchnikoff did not enter into a detailed discussion of the question but stated that to his mind the principle of marrying young as a safeguard against venereal infection could not be regarded as practicable. Nor did he go fully into the much-debated question of regulation or abolitionism in the fight against venereal diseases. Great Britain, proud and jealous of her liberties, pushed her liberalism even to the liberty of communicating contagious diseases. Abolitionism originated on English soil and had thence spread to other countries. There could be no doubt that the regulation of prostitution was a very imperfect thing. Nor could there be any doubt that the restriction of liberty was most disagreeable and vexatious. Nevertheless, until a new order of things, regulation, even though partial and imperfect, was better than unlimited freedom. Assuredly it would be a great step forward if some method were discovered which made regulation and all intervention of public authorities superfluous and thus insured mankind against syphilis by practical and simple means, dependent only on the will of those risking contagion. A mode of prevention of syphilis by means of vaccines, strictly speaking—i.e., by means of attenuated virus or by products of the virus—might possibly succeed but in the search for these products the same difficulties were met with as in the preparation of an efficient serum.

In order to transform a virus into a vaccine by treating it with chemical substances or by subjecting it to physical agencies it was essential to possess larger quantities of it than were present in the syphilitic matter of chancres, of the inner organs, or the blood. They must therefore wait for the time when they could possess cultures of the syphilis spirillum. For the time being it was of no use entering into the question of antisyphilitic vaccines. Professor Metchnikoff detailed experiments showing that the syphilitic virus of Macacus rhesus was attenuated by several passages, so as at last to lose its virulence for that species of monkey and that the chimpanzee might strengthen that weakened virus. Since the zoological distance between the macacus and man was greater than that between the macacus and the chimpanzee one might suppose that the virus of the macacus would act on man differently from the chimpanzee. A chance occurrence had thrown some light on that problem. One of his laboratory assistants who took an active part in the experiments and who frequently handled the syphilis-infected monkeys one day noticed an ulcer on his lower lip which appeared suspicious to him. However, since the lesion was not accompanied by any swelling of the lymphatic glands and since it healed soon after its appearance it was forgotten for the time being. Not until a month later, when the assistant noticed on the same lip an ulcer similar to the first, did he think it necessary to apply for medical advice. However, since there was no swelling of the lymphatic glands and since the lesion on the lip appeared to be superficial and insignificant there was no reason to consider it as a syphilitic affection. In order to be quite sure a Javanese macacus was inoculated with some fluid drawn from the small ulcer. Great was the astonishment of all concerned when, four weeks after the inoculation, two most typical primary lesions were observed on the eyebrows of the macacus. All doubts ceased when those lesions of the monkey were found to be teeming with Schaudinn's spirilla. The assistant, made anxious by the discovery, consulted Fournier, the greatest living authority on syphilis, so as to ascertain whether mercurial treatment would be necessary. After a most thorough examination the eminent savant emphatically denied any such necessity. He found nothing to justify the diagnosis of syphilis and did not advise any treatment to be undertaken. The non-occurrence of any, even the slightest, suspicious symptoms in the space of six months justified the advice given. Clinically the assistant did not suffer from syphilis and yet the ulcer on his lip caused an absolutely characteristic primary lesion in the macacus. An explanation of this most contradictory result could only be given by assuming that the assistant had through some carelessness got his mouth infected with virus from a macacus which acted on him like a very attenuated virus. The hypothesis of a former syphilis, which might have explained the slightness of the lesion following an accidental reinfection, must be absolutely excluded, for the assistant never had syphilis.

After obtaining these data Professor Metchnikoff consented to the inoculation of a human being with virus passed through a macacus. From a number of persons who had repeatedly begged for the effect of antisyphilitic vaccination to be tried on them, an aged female was selected who asserted that she had never had syphilis and who offered herself of her own free will to an experiment of that kind. The most minute examination justified that assertion. The virus, which had been passed through a Macacus sinicus, was inoculated on three different parts of her forearm. After an incubation period of 12 days there appeared two small non-ulcerated pustules of a reddish-brown colour which resembled the pustules of secondary syphilis. After several weeks they disappeared, leaving only two pigmented spots. As in the case of the assistant, neither any swelling of the lymphatic glands nor any other secondary lesion had been observed for over half a year. Such were the facts which led to the belief that the macaci might attenuate the syphilitic virus for their own species and for man. Those facts, of course, gave only a first indication and they were still far from possessing a method of antisyphilitic vaccination. Even if, at a later stage, the existence of a vaccine against syphilis were conclusively proved, it could only be employed under very exceptional conditions. The attenuated and therefore living virus might, in fact, bring about most awkward complications if used on a large scale. They knew that some of the patients suffering from general paralysis and from tabes had only shown quite insignificant syphilitic lesions. Only to hose persons who were exposed to the greatest risk of acquiring human syphilis might one propose vaccination with an attenuated virus. Those persons to benefit first from vaccination would have to be selected from among the beginners in prostitution. It was an established fact that hose women only in exceptional cases escaped syphilis. As almost all of them were therefore condemned to acquire hat disease vaccination would be an advantage for them as well as for the men having intercourse with them, but in practice the carrying out of that proposal involved serious difficulties, since the beginners in prostitution were very young and almost always minors.

According to the data collected by Fournier syphilitic nfection in prostitutes began early—i.e., it was first observed about the fourteenth year. Syphilitic infection afterwards showed a speedy increase in frequency among those girls, especially between their fifteenth and their seventeenth year, and attained its maximum in the eighteenth year. Being minors and ignorant, those young prostitutes enjoyed full liberty, without the slightest constraint being put upon them. How could one persuade them to submit to be vaccinated against syphilis? The conditions for such vaccination were very different in the cases of family syphilis, of such frequent occurrence amongst the rural population of Russia. Children who were in danger of acquiring syphilis from their relatives and who passed the disease on to other children might more easily be subjected to vaccination. They had not the liberty to do as they liked and must obey their parents, and the chances were that the parents might more easily be brought to understand the advantage of such measures. Vaccination with a virus so attenuated as to cause no secondary lesions would contribute materially to the lessening of the evil. The vaccine might be inoculated into those parts of the body which were least exposed to contact —e.g., the forearms. The possibility of the primary lesion causing infection would thus be reduced to a minimum, whilst the chances of contamination by a kiss or other dangerous contact with persons suffering from "plaques muqueuses" would be entirely removed.

Thanks to the facilities for studying that question by experiment on monkeys the solution of the problem of anti-syphilitic vaccination need no more be regarded in the light of an unrealisable and Utopian scheme. Central laboratories for the preparation of vaccines would have to be founded in which attenuated vaccines could be maintained by alternate passage through anthropoid apes and lower monkeys. The latter, after having been proved to be free from tuberculosis by the tuberculin test, would furnish the necessary vaccines. Before, however, that method could be realised in practice they had yet a long distance to traverse. In the face of the difficulties at present besetting the plan of vaccination against primary and secondary syphilitic lesions it was only natural to seek for some other means of prophylaxis against that terrible disease. It being a generally established fact that mercury was a sovereign remedy for syphilis Behrmann of Nürnberg six years ago suggested inunction of grey mercurial ointment as a preventive measure. Cohn of Berlin had suggested applying before the contact took place a salve made up of Ledermann's mercurial preparation and resorcin. After contact he advised washing with mercurial soap. To the same prophylactic end Guiard of Paris proposed washing with a solution of corrosive sublimate (1 in 4000 or 5000). He considered that if the prostitutes would but make use of that simple procedure syphilis would spread far less than it did at present. Guiard based his suggestion on the well-known therapeutic efficiency of mercury and its salts. In a long series of experiments carried out on chimpanzees, baboons, and macaci, mercurial inunction successfully prevented the outbreak of a primary lesion. The virus was inoculated either on the eyebrows or on the genital organs of the males and females. It was taken from a primary lesion in man and was thoroughly applied with a scarifier. The ointments employed were prepared either with metallic mercury or with calomel, white precipitate, or salicyl-arsenite of mercury. The substances were suspended in lanoline (1 in 3 or 1 in 4). Inunction was carried out for from four to five minutes and was begun between one and 20 hours after the inoculation. Even when applied 18½ hours after infection calomel salve still proved effective.

The conclusion from those experiments was that mercurial ointments might certainly be useful prophylactics against syphilis in all those cases where a contact had taken place. Instead of grey ointment, which caused much irritation in the skin and mucous membranes, the use of salves made up with non-irritating mercury salts should be recommended, such as calomel. The results obtained on lower monkeys and on anthropoid apes agreed so well as to justify the conclusion that the same method might also serve for the prevention of syphilis in man. Nevertheless, to make sure, they decided to try an experiment on a man. They inoculated at his own request a young medical student, who had almost completed his studies, with virus from the chancres of two syphilitic men. An hour after the parts inoculated were rubbed for five minutes with an ointment which contained in 3 parts 1 part of calomel. The young man, although certainly free from any former syphilitic taint, developed no primary lesion. Four macaci were treated with the same virus with which he was inoculated. Two of them, used as control animals, showed primary lesions 17 days later. A third macacus was rubbed with the calomel ointment an hour after inoculation of the virus and remained free from any syphilitic lesion, like the young man. The fourth macacus was rubbed with the ointment 20 hours after inoculation and showed a primary lesion after 39 days. That experiment, therefore, showed that man could with advantage employ mercurial ointments after every suspicious contact in order to preserve himself from syphilis. The study of that prophylactic method was not yet finished. Perhaps even a less prolonged inunction with ointments containing a lower percentage of mercurial salts might successfully prevent the development of the virus. There were not wanting persons who considered that every measure which might limit syphilis only served to encourage vice and that it would be better to let the disease spread freely. He did not discuss the morality of those who acquired that disease by sexual intercourse, but were not many victims absolutely innocent and had they not a right to be protected?

Persons who looked upon the prophylaxis of syphilis as immoral should apply the same reasoning to the use of antiseptics in midwifery because it facilitated criminal abortion. And if that paradox were carried through to the bitter end one might oppose not only the prophylaxis but also any treatment of syphilis, for men of genius, tainted with syphilis, had produced remarkable work, in the creation of which the cerebral excitement caused by the disease had doubtless played an important part. No considerations of a moralising tendency should retard the prevention of so disastrous a calamity as syphilis. True morality should rather contribute as much as possible to the prophylaxis of that and many another disease. Superannuated ideas, which had become firmly rooted, condemned the care one took of one's own health. One might care for others but it was wrong to take precautions for oneself. Ruined buildings and tattered clothing might appear more beautiful from an artist's point of view than complete houses and clean clothing, yet civilisation tended to replace the former by the latter. In questions of health morality should not attempt to lead hygiene but should rather follow her. Even in the religions of old hygienic precepts occupied an important place. With how much more reason ought not modern hygiene, having become an exact and infinitely more precise science than it was formerly, to reign supreme over all doctrines of morality.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

THE Congress of Internal Medicine met this year at Munich from April 23rd to 26th, Professor **STRÜMPELL** (Leipsic) being in the chair. In his inaugural address the President made special mention of the deceased members, especially the late Professor Nothnagel of Vienna and Professor Rosenstein of Leyden, and then he delivered an interesting discourse on the present state of medical diagnosis and treatment. He said that the enormous number of journals devoted to practical medicine, of new medicinal compounds, of complicated therapeutical methods, and of sanatoriums might seem to imply that medical treatment had recently undergone great development. But if the alleged success and the scientific importance of the therapeutical agents so highly recommended were considered it must be admitted that there has lately been a good deal of puffing in medicine. It is characteristic of the medical puffing of the present day that announcements of this description are dressed up in a quasi scientific garb consisting of detailed chemical analyses, statistical tables, graphic curves, &c., although their scientific importance is no more than nominal. Professor Strümpell said that he did not wish to advocate a return to the therapeutical nihilism of former times, he only desired to draw attention to certain exaggerations and undesirable features in modern medical life. Professor Strümpell's address was listened to with great interest and the Congress then proceeded to the consideration of the subjects appointed for discussion.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin Correspondent.

Pathology of the Thyroid Gland.

Professor KRAUS (Berlin) said that the thyroid gland undoubtedly formed a secretion which entered the circulation but that the way by which this occurred had not yet been ascertained by histological research. Since the discovery of iodine in the thyroid gland by Professor Baumann two functions of the gland have been recognised—namely, the production (1) of substances necessary for the life of the organism, and (2) of antitoxins which prevented auto intoxication There are anatomical facts which are favourable to a double function of the gland. A reference was then made to the parathyroid glands of a peculiar structure discovered by Nicolas and Kohn, after which Professor Kraus said that experimental and clinical observations have shown that acute tetanus probably depended on the loss of the parathyroid glands He then discussed the causes of the symptoms produced by the loss of the thyroid gland and said that the neuropathology of the tetanic convulsions was not known. Radiographic examination in cretins showed that the ossification of the bones was obviously slower than in normal individuals. The thyroid gland had a regulating action on the formation of bone. Among the diseases produced by a diminution of the function of the gland he mentioned myxœdema, infantile myxœdema, the myxœdema of adults, hypothyroidism (characterised by a backward condition of the growth and the physical development), and finally endemic cretinism.

Professor KOCHER (Berne) said that two forms of disease of the thyroid gland must be distinguished, these being respectively of thyro-atrophic and of thyrotoxic origin The thyro atrophic symptoms were the sequel of the partial or total loss of the function of the thyroid gland. The loss of the thyroid gland itself produced the condition known as cachexia thyropriva which was a chronic disturbance of the metabolism; the loss of the parathyroid gland produced a series of toxic symptoms constituting tetania parathyropriva. They together formed the group of hypothyroses to which belonged not only myxœdema and cretinism but also some undeveloped forms with local symptoms, such as disturbance of the genital functions, psychoses, and neuroses. For all these ailments the administration of thyroidin and of iodothyrin acted as a specific. If the symptoms were not too inveterate they disappeared under this treatment, but only so long as the administration of the remedies was continued. The pharmaceutical treatment was therefore only palliative, the radical method being the implantation of healthy glandular tissue. The thyrotoxic diseases were caused by hyperactivity of the gland They ran either an acute or a chronic course, the former being characterised by toxic symptoms and the latter by the symptoms of a disease of metabolism. Medical men should learn to recognise the early symptoms, as in this stage recovery was possible under an adequate diet, avoiding substances which might irritate the gland. Milk diet, especially the use of goat's milk, was advisable, and phosphates were to be recommended. The radical treatment was a surgical operation consisting in ligature and excision according to the degree of hyperplasia Patients whose entire gland was removed lived only seven years. After a partial removal of the gland cachexia was developed if the remainder underwent degeneration. Tetanus happened twice in a series of 40 cases of total excision. In Graves's disease recovery followed after an operation had brought the gland back to its normal size.—The discussion on these two papers was lengthy, as no fewer than 22 members spoke.

Professor NEUSSER (Vienna) pointed out that some relation must exist between the thyroid gland and the liver; he had seen cases of atrophy of the thyroid gland combined with atrophic cirrhosis of the liver showing symptoms of thyro-atrophic cachexia.

Professor MÜLLER (Munich) drew attention to the fact that patients suffering from Graves's disease very soon showed evidence of fatigue, both bodily and mental. He also alluded to the relation existing between Graves's disease and diabetes

Dr. BLUMENTHAL (Berlin) gave some account of experiments which he had made on goats in which the thyroid gland was removed but the parathyroid glands were preserved. For two months after the operation the goats were unaffected but then their hair began to fall out, the secretion of milk ceased, and myxœdema developed.

Dr. GUTZMANN (Berlin) mentioned that disorders of vocal utterance sometimes occurred in myxœdema but disappeared under the use of thyroid compounds.

Cardiac Irregularities.

Professor HERING (Prague) read a paper in which he described five forms of cardiac irregularity—namely (1) pulsus irregularis respiratorius; (2) extra-systolic irregularity; (3) pulsus irregularis perpetuus, (4) disorders of innervation; and (5) pulsus alternans. The respiratory irregularity was pathological only when the respiration was superficial or ceased for some moments It was a symptom of an increased irritability of the central nervous system. Extra-systolic irregularities might appear if a ventricular extra-systole occurred between two normal systoles without disturbing the normal rhythm or if a ventricular extra-systole caused an extra systole of the auricle. They were no doubt caused by irritants of a mechanical nature. Extra-systolic contraction produced pulsus trigeminus, quadrigeminus, or tachycardia. Pulsus irregularis perpetuus was always combined with a venous pulse Dissociation was a state in which the ventricles had a rhythmic contraction apart from the auricles. Pulsus alternans was certainly ventricular; it was a symptom of a certain cardiac debility Dissociation and pulsus alternans were rather rare conditions.

In the discussion Dr. KIRCH (Marienbad) said that the arrhythmia in young and in neurasthenic subjects gave the best prognosis. It might occur after physical or mental over-exertion and disappear with rest.

(To be continued.)

MEDICINE AND THE LAW.

The Home Office and the "Conscientious Objector"

THE Home Secretary has recently ordered a circular letter to be issued calling the attention of magistrates to the circumstances in which under Section 2 of the Vaccination Act, 1898, certificates of exemption are to be granted and to the manner in which they are often refused. The Act orders these to be given whenever the magistrates are satisfied that the applicant conscientiously believes that vaccination will be prejudicial to the health of the child in question. In addressing the grand jury at Birmingham in July, 1904, the Lord Chief Justice pointed out that two conditions have to be considered—namely, the "conscientious belief" and the belief "that vaccination would be prejudicial to the health of the child." The latter, he observed, would not be satisfied by a sort of general idea that vaccination was not good or that compulsory vaccination interfered with the rights of the subject and with the parent's control of his offspring—the parent's belief must be founded upon consideration of "the particular case of the child in point The Home Office circular quotes Lord Alverstone's words and adds a few brief paragraphs amplifying them, pointing out that the Act does not require the belief to be well founded and also that it is not necessary to the proof of a conscientious objection that a certificate should be produced, or even that evidence should be given of any particular state of health of the child. It proceeds "In order to satisfy themselves that the applicant's belief is conscientious the justices may think it desirable to ask him the origin and grounds of his opinion, but if that belief is genuinely entertained, any ignorance on medical or sanitary or statistical questions which he may display is no ground for the refusal of a certificate." The circular also adds that applicants who complain to the Home Office, as frequently happens, with regard to the conduct of magistrates in this connexion often point to the fact that they have made long journeys to the court and have lost wages by so doing as evidence of the conscientious nature of their objection and the Home Secretary intimates that, though he does not wish to define the grounds on which magistrates should act, he is of opinion that such circumstances as those mentioned may reasonably be taken into consideration. The circular concludes with a hint that misapprehension of the meaning of the section may have caused the friction which has arisen under it and which it was intended to remove but that in the Home Secretary's opinion the state of things which now exists is likely to affect injuriously the general operation of the Act. Whatever views reasonable men may take as to the danger or absence of danger attending vaccination performed according to the methods now in use, the justice of the Home Secretary's views, and the soundness of the reasoning which underlies them are not hastily to be denied. The section in question, whether wisely inserted or not, was intended to remove friction in cases which would not have been so frequent but for the wide advertisement given to the power to obtain exemption by the frequent reports in newspapers of conflicts between magistrates and applicants. At the same time the general want of sympathy on the part of magistrates throughout the country with the applications of the "conscientious objector" has been due to a genuine desire to promote the public good and the medical profession has received zealous support from them in the effort to obtain universal and efficient vaccination.

Diseased Meat and the Wholesale Dealer.

A decision of some importance from the point of view of the public health was recently given by the Divisional Court in a case in which a sanitary inspector for the borough of Paddington was the appellant and a slaughter-house keeper was the respondent. The sanitary inspector found in a bunch of pigs' plucks hanging up on the premises of a pork-butcher in the Harrow-road one which was tuberculous and which he accordingly seized. It was the practice of the pork-butcher, and had been so for two years, to submit daily his purchases to the sanitary inspector and not to sell anything until he had passed it. In these circumstances the particular plucks among which the unsound one was found were clearly not being offered for sale, as they had not been inspected, so that no proceedings were taken against the pork-butcher, but a summons was taken out against a person said to have been the original purveyor of the meat, a slaughter-house keeper from whom it was alleged that the pork-butcher had bought it. The matter would have been simple enough so far as the law was concerned had the diseased pluck been proved to have been exposed for sale as human food, but as it had not been offered as such the prosecution was met by a decision (Reg. *v.* Dennis, 1894 Q B. 458) which seemed to lay down that in these circumstances no offence was committed by the original vendor, and the magistrate had accordingly dismissed the case on those grounds without going further into the facts. The Lord Chief Justice was, however, able to distinguish the case referred to as one in which it was not clear that the stuff in question had been sold as human food and in which a jury had been wrongly directed upon that point and he delivered the judgment of the court to that effect, remitting the charge against the slaughter-house keeper to the magistrate in order that it might be tried out. The prosecution, it may be mentioned, was brought under Section 47 of the Public Health (London) Act, 1891, of which Subsection 1 provides for the inspection and seizure of articles intended for the food of man and exposed for sale, throwing upon the person charged with exposing it the burden of proving that it was not intended for human consumption. Subsection 2 provides for the summary conviction of the person exposing the food and Subsection 3 is as follows:—

> Where it is shown that any article liable to be seized under this section and found in the possession of any person was purchased by him from another person for the food of man, and when so purchased was in such a condition as to be liable to be seized and condemned under this section, the person who so sold the same shall be liable to the fine and imprisonment above mentioned unless he proves that at the time he sold the said article he did not know, and had no reason to believe, that it was in such condition.

Subsection 3 would certainly seem to have been intended to cover such facts as those alleged in the case described and it would be a matter for regret if a person could not be convicted under Subsection 3 unless another person could also be convicted under Subsection 2.

Prosecution by the Medical Defence Union.

On June 5th the Medical Defence Union prosecuted a person, giving the name of Le Grand N. Denslow, before Mr. Paul Taylor at Marylebone police court for using the titles of Doctor and of physician, and thereby implying that he was registered under the Medical Acts. Evidence of the assumption of the titles was given. Mr. Freke Palmer, for the defence, said that the defendant was an M.D. of New York and up to 1902 had had a large practice in that city and in Minnesota. Since that date he had devoted himself to working at the subject of locomotor ataxy. The defendant was fined £30 and 10 guineas costs. We may add that we cannot find the name of Le Grand N. Denslow in the Index of Physicians of the Standard Medical Directory of North America for 1903–04.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8601 births and 4176 deaths were registered during the week ending June 2nd. The annual rate of mortality in these towns, which had steadily declined in the six preceding weeks from 17·3 to 14·2 per 1000, further declined last week to 13·8 and was lower than in any previous week of this year. During the first nine weeks of the current quarter the death-rate in these towns averaged 15·8 per 1000; in London the average rate in the same period was 15·9, and in the 75 other large towns 15·8 per 1000. The lowest death-rates during last week in the 76 towns were 4·8 in Hornsey, 5·3 in Devonport, and 5·7 in Handsworth and in King's Norton; the rates in the other towns ranged upwards to 18·0 in Manchester and in Salford, 18·1 in Huddersfield, 18·6 in Bury, 19·8 in Stockton, and 19·9 in Stockport and in Swansea. The 4176 deaths in the 76 towns showed a further decline of 117 from the numbers returned in recent weeks and included 409 which were referred to the principal epidemic diseases, against 419 and 441 in the two preceding weeks; of these, 157 resulted from measles, 101 from whooping-cough, 56 from diarrhœa, 42 from scarlet fever, 39 from diphtheria, 14 from "fever" (principally enteric), and not one from small-pox. The deaths from these diseases were equal to an annual rate of 1·3 per 1000 in the 76 towns and to 1·4 in London. No death from any of these infectious diseases was registered last week in Nottingham, Sunderland, Walsall, York, Devonport, South Shields, or in ten other smaller towns, whereas they caused death-rates exceeding 3 per 1000 in Manchester, Salford, Huddersfield, and Aston Manor. The highest death-rates from measles occurred in Bournemouth, Tynemouth, Burnley, and Manchester; and from whooping-cough in Aston Manor, Coventry, Bootle, and Huddersfield; and from diarrhœa in Hull. Scarlet fever caused eight deaths in Sheffield, three in Liverpool, and two each in East Ham, Plymouth, Birmingham, and Birkenhead. Of the 39 deaths from diphtheria three occurred in West Ham, and two each in Walthamstow, Plymouth, Liverpool, Salford, Sheffield, and Newcastle-upon-Tyne. Five cases of small-pox were under treatment in the Metropolitan Asylums hospitals at the end of last week, no new case having been admitted during the week. The number of scarlet fever patients under treatment in these hospitals and in the London fever hospital on Saturday, June 2nd, was 2516, showing a further increase upon recent weekly numbers; the 313 new cases admitted during the week were 23 fewer than those in the previous week. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had declined in the six preceding weeks from 399 to 212, further fell last week to 186 and were 30 below the corrected average for the corresponding week in the four preceding years 1902–05. The causes of 45, or 1·1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Norwich, Plymouth, Sunderland, Newcastle-upon-Tyne and in 43 other large towns. The proportion of uncertified deaths showed, however, an excess in Portsmouth, Leicester, Blackburn, Preston, Halifax, Sheffield and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of

Scotch towns, which had been equal to 18·8, 17·6, and 17·3 per 1000 in the three preceding weeks, rose again to 17·5 in the week ending June 2nd, and exceeded by 3·7 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·1 in Perth and 15·2 in Dundee to 17·6 in Edinburgh, 18·2 in Glasgow, and 24·3 in Greenock. The 600 deaths in the eight towns exceeded by eight the number returned in the previous week, and included 22 which were referred to whooping-cough, 13 to measles, 13 to diarrhœa, six to diphtheria, five to "fever," four to scarlet fever, and not one to small-pox. In all, 63 deaths resulted from these principal infectious diseases, showing an increase of 18 upon the number in the previous week; they were equal to an annual rate of 1·8 per 1000, which was 0·5 above the mean rate during the week from the same diseases in the 76 English towns. The fatal cases of whooping-cough, which had declined in the four preceding weeks from 24 to 13, rose again last week to 22, and included 13 in Glasgow, three in Dundee, three in Aberdeen, and two in Greenock. The 13 deaths from measles showed an increase of one upon the number in the previous week; six occurred in Glasgow and four in Edinburgh. Of the 13 deaths referred to diarrhœa eight were returned in Glasgow and three in Edinburgh. All the four fatal cases of diphtheria occurred in Glasgow and two of the four of scarlet fever in Dundee. The five deaths referred to "fever" exceeded the number in any recent week and included three in Glasgow, of which one was a fatal case of cerebro-spinal fever. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 131 and 96 in the two previous weeks, further fell to 95 last week, but exceeded by seven the number in the corresponding week of last year. The causes of 27, or 4·5 per cent., of the deaths registered in the eight towns last week were not certified, the proportion of uncertified deaths in the 78 large English towns during the same week being only 1·1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been 21 6 and 22·4 per 1000 in the two preceding weeks, declined to 20·2 in the week ending June 2nd, a lower rate than has prevailed in any previous week of the current quarter. During the first nine weeks of the current quarter the death-rate in the city averaged 23·0 per 1000, against 15·9 in London and 18·2 in Edinburgh. The 147 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 16 from the numbers returned in the previous week, and included seven which were referred to the principal infectious diseases, against two and six in the two preceding weeks. These seven deaths from the infectious diseases included three fatal cases of whooping-cough, two of measles, and two of diarrhœa, whereas no death was referred to small pox, scarlet fever, diphtheria, or "fever"; the seven deaths were equal
to an annual rate of 1·0 per 1000, the rate from the same
diseases last week being 1·4 in London and 1·2 in Edin-
burgh. The 147 deaths in Dublin last week included 33
of infants under one year of age and 36 of persons aged
upwards of 60 years; the deaths of infants showed a con-
siderable increase upon recent weekly numbers, while those
of elderly persons showed a decline. Four inquest cases
and two deaths from violence were registered, and 58, or
39 per cent., of the deaths in the city were recorded in
public institutions. The causes of 11, or 7·5 per cent., of
the 147 deaths were not certified either by a registered
medical practitioner or by a coroner, the proportion of
uncertified deaths last week being but 0·2 in London and
6·1 in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

accordance with the provisions of Her late Majesty's
Council of April 1st, 1881, Fleet Surgeon Henry
F rocker has been placed on the Retired List at his
th permission to assume the rank of Deputy
of Hospitals and Fleets.

RMY MEDICAL CORPS.

as H. Corkery retires on retired

ARMY MEDICAL RESERVE OF OFFICERS

Surgeon-Lieutenant-Colonel William Draper, V.D, having attained the prescribed limit of age, is removed from the Army Medical Reserve of Officers (dated June 6th, 1906).

Surgeon-Captain Robert E Beveridge to be Surgeon-Major (dated May 26th, 1906); Surgeon-Major James W. T. Gilbert to be Surgeon-Lieutenant-Colonel (dated May 22nd, 1906); Surgeon-Captain Hamilton C. Reid to be Surgeon-Major (dated May 26th, 1906).

IMPERIAL YEOMANRY.

East Riding of Yorkshire: Robert Athelstan Draper (late Surgeon-Lieutenant, 1st East Riding of Yorkshire Royal Garrison Artillery (Volunteers), Surgeon-Lieutenant, Army Medical Reserve of Officers) to be Surgeon-Lieutenant (dated May 19th, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Lanarkshire. Surgeon-Captain A. K. Chalmers to be Surgeon-Major (dated June 2nd, 1906). 1st Shropshire and Staffordshire. Surgeon-Lieutenant G. Mackie to be Surgeon-Captain (dated June 2nd, 1906).

Royal Engineers (Volunteers): 1st Aberdeenshire. Frederick Philip to be Surgeon-Lieutenant (dated June 2nd, 1906).

DEATHS IN THE SERVICES.

Brigade-Surgeon-Lieutenant-Colonel George Massy, I.M.S. (retired), at his residence in Bath on May 14th, in his sixty-fifth year. He joined the Indian Medical Service in 1865 and retired in 1898.

A PORTABLE RATION FOR SOLDIERS IN BATTLE AND ON THE MARCH.

In the *Journal of the American Medical Association* of
May 26th Dr. Louis L Seaman has an article on this subject
in which he states that no uniform standard can be made
applicable to all armies or to all countries. Climate, season,
custom, fixed tastes of different nationalities inherited
through generations, distance from base of supplies, and cost
of preparation are all factors that materially influence the
selection of a portable ration and also indicate the impos-
sibility of uniformity. He calls attention to the value of
smoked beef and describes its method of preparation. He
states that this meat will keep indefinitely, is easily digested
and palatable, and may be eaten raw or cooked. At the
same time it does not soon become distasteful like canned
roast beef or corned beef, while its nutrient value is high
as it contains 26·4 per cent. of protein and 6 9 per cent of
fat, and owing to the creasote with which it is impregnated
it possesses antiseptic qualities which he considers of great
value in a military diet For the carbohydrate constituent
of the ration he suggests a mixture of seven parts rice to three
parts barley meal. The mixture of these two grains is a very
good substitute for bread and lends itself particularly to the
making of a palatable soup or stew. It should be cooked,
dried, and ground; so prepared it keeps well, is easily trans-
ported, and can be quickly prepared by the individual soldier.
It is especially proposed as a substitute for the hard bread
which now forms such an important constituent of most
military field rations. The portable ration should only be used
when fresh meat, bread, and vegetables cannot be obtained.
He states that portable water and soup kettles should
form a part of a campaign outfit and speaks of the necessity
of tea or coffee as an article in the soldier's rations. When
drunk hot they maintain the bodily temperature and permit
the use of food for purposes of energy which would otherwise
be applied to the maintenance of bodily heat. Tea is, in
Dr. Seaman's opinion, far preferable to coffee as a component
of the military ration under consideration.

MILITARY HYGIENE.

An editorial article in the *Broad Arrow* closes with the
following words: "We believe that the present Director-
General of the Army Medical Department is taking measures
to improve the physical efficiency of the army. But in these
matters help must come from below. The men of the army,
like the blue-jackets in the Royal Navy, should be required
to observe personal cleanliness The result of neglect of
surface cleanliness in the soil of camp and quarters, that
compare so badly with a ship's decks, whose surface is never
sullied, should be constantly impressed on the soldier by his
officers. Then in the next campaign on which he enters he,
because forewarned, will be forearmed, against disease."

Correspondence.

"*Audi alteram partem.*"

THE ALLEGED GROWTH OF INSANITY.

To the Editors of THE LANCET.

SIRS,—The fact that on Jan. 1st, 1905, the total number of notified insane in England and Wales stood to the estimated population in the proportion of 1 to 285 is in itself sufficiently important and interesting to merit close and careful consideration. Whether the country ought to regard this condition of things, where all is human, as matter for modest gratulation or for penitential self-reproach it is difficult to say off-hand. There are those, on the one hand, who are pleased that things are no worse and who are thankful that there are as many as 285 persons not "notified insane" to one person so notified, and there are, on the other hand, those who take a gloomy view of the situation, not because they are ratepayers but because they have persuaded themselves that the proportion of notified insane is excessive and blameworthy, not to say discreditable. To this latter category belongs assuredly a writer who, taking as his text the "Growth of Insanity," occupied several columns of the *Times* of April 14th and 21st with articles in large type dealing with his subject and serving up enlightenment to "the many estimable people who like to amuse themselves with hypotheses, while they close their minds firmly against unpleasant facts." The writer commences by giving, on a process of calculation peculiarly his own, 1 to 272 as the proportion of insane to population and not 1 to 285 as given by the Commissioners in Lunacy in their report; but this is a mere trifle in his way of stating "unpleasant facts," for he goes on to say, and this is the *raison d'être* of his lucubrations, that "in insanity we have a disease which has increased five-fold in the last 60 years during which the population has only doubled itself." After reminding us that "the effect of the mere sweeping up and incarceration of the harmless so-called '*naturals*' of country villages was exhausted within a very few years of the passing of the Lunacy Acts of 1845," he goes out of his way to take, as the basis of his comparative statement, the number of the insane and the population in the year 1844, a date antecedent both to the passing of those Acts and to the influence of the "sweeping up" operations referred to. The writer has to this extent vitiated his case and has therefore, possibly unwittingly, done his subject an injustice. He has presented to the general public such an overdrawn, not to say startling, picture that I have taken the liberty of asking you, Sirs, to kindly afford me some space in THE LANCET to lay before your readers what appears to me to be the interpretation that should be put upon the most recent official evidence as to the numerical growth of insanity in England and Wales. Comparative statistics are ever a source of danger, even when expressed in the least complicated terms, but those given on this question by the Commissioners in Lunacy in their fifty-ninth report (1905) have at least the merit of being compiled without bias or prejudice upon as complete a scale as the nature of the circumstances permits. The last 35 years—i.e., from 1869 to 1904—may fairly be regarded as a period of uniformity with respect to the notification and registration of the insane in England and Wales and the figures given by the Commissioners are the only trustworthy ones. In their report they tell us that the total insane were 53,177 on Jan. 1st, 1869, and 119,829 on Jan. 1st, 1905, and they add that "in spite of this large numerical increase, it will be found that when considered in relation to the growth of population the proportion of insane has *not* increased as much as the population." The figures given for the 35 years ending with 1904 show that the rate of increase per cent. of the population was 53·6, while that of the ratio of insane to population was 46 6. With this definite expression of opinion on the part of those who are in the best position to know I am content to leave this aspect of the question.

Large as the actual increase in the total number unquestionably is, there can be no doubt that the segregation of the insane in asylums and the restrictions placed upon them, although somewhat costly, have been the means of checking the rate and the extent of the increase by so far preventing them from propagating their kind, the influence of heredity being admittedly one of the most consistent as well as one of the most potent factors in the causation of insanity. On the other hand, the conditions of asylum life are now so well ordered that they must to some extent be held responsible for furthering the asylum accumulation of the insane by obviating the tendency to death and by engendering in the convalescent inmates more contentment with their surroundings and less longing to be at large and to engage in the struggle for existence in the hurly-burly of life. Nor must it be left out of consideration that the domestic life of the poorer classes is not always well adapted to looking after weaklings from asylums and that the relatives, knowing how well housed and looked after they are, refrain from clamouring for their discharge. What is the meaning of the large numerical increase of the total insane? Referring again to the Blue-book of the Commissioners (1905) a chart is given representing the gradual growth of the ratios of insane to population from 1859 onwards and of the private and pauper class respectively. "The curves demonstrate clearly that whereas in the pauper class the proportion of insane to population has grown almost *pari passu* with the increase of total insanity in the population, there is no such parallelism in regard to private patients ...... This variation is the more striking when it is borne in mind that every year an increasing number of patients admitted as paupers are transferred to the private class, the transfers in the opposite direction showing no such increase." Taking the years 1859 to 1905, the ratio of the total insane per 10,000 of population rose steadily from 18·67 to 35·09 (not quite doubling itself), while that of the pauper patients rose with the same steadiness from 15·95 in 1859 to 32·0 in 1905 (as nearly as possible doubling itself) and that of private patients only rose (and with irregularity) from 2·38 to 2·8 (the highest point reached being 2·97 in 1879). In other words, while the proportion of pauper patients has doubled itself in the last 45 years that of the private patients has remained to all intents and purposes stationary, which, being interpreted, means that impecuniosity and straitened circumstances (the *res angusta domi*) must be held responsible for the numerical growth of insanity and that a large proportion of the insanity upon which the ratepayers so freely expend their money is a kind of insanity which has for its test or gauge not the mental condition but the pecuniary resources of the patient. From this kind of insanity the well-to-do can, as it were, purchase their discharge, while the impecunious have to remain in the asylum and on the notified list. In this way an explanation is afforded of the disproportion of the discharge-rate among private patients as compared with pauper patients, as also of the great difference between the ratios of increase in the two classes. This is a matter of such vital importance in any unprejudiced inquiry into the question of the growth of insanity that I give in full the clear statement of the Commissioners (Report for 1905) on the subject:—

"There is another reason than that of the admission-rate which largely explains the fact that private insane patients *have not* increased in like manner to the pauper insane, and that is the much higher proportion of those discharged annually from the private class. Of the total admissions during the decade (1895 to 1904) the discharges amongst private patients amounted to 78·1 per cent., or 43·9 recovered and 34·2 not recovered, these discharges being exclusive of transfers from place to place. Amongst pauper patients in the same period the total discharge-rate was 44·5 per cent., or 36·5 recovered and 8 0 not recovered. There must, therefore, be a far greater accumulation of the pauper insane than there is of those in the private class. There is, no doubt, sufficient reason for the marked discrepancy between the proportion of non-recoveries amongst the discharged cases in each class. That an insane patient should be discharged from an institution 'not recovered' must not be taken to imply any laxity of administration. No patient considered to be dangerous to himself or others would wittingly be so discharged, and the probability is that they are mostly of the harmless, feeble-minded type who, if paupers, would be unable to obtain their own living but who, if belonging to a better station of life, could be well looked after and cared for in their homes. Naturally a certain number of such discharged non-recoverables again find their way back to institutions to form part of the 20 per cent. or so of the annual admissions who enter asylums not for the first time. The pauper whom it is not deemed advisable to discharge so readily, seeing that he is far more likely to return, is retained in the asylum under control and there engages in useful work, which he can do under such conditions, yet is *quite incapable of performing* it under the strain and stress of earning a livelihood."

This retention and accumulation in asylums of pauper inmates who are "insane" only by force of circumstances, *of persons whose insanity is potential* rather than actual, are undoubtedly the cause of the growth in the number of the notified insane. Further, it is not too much to say that this numerical growth of insanity is preternatural in so far as it is *due to external* and adventitious, and not to pathological, conditions, a fact which may be taken to indicate that a considerable proportion of it is unreal and, in some sense, fallacious. From what has been said it will have been gathered that in relation to our inquiry the official list of insane persons under the cognisance of the Commissioners consists of two classes which are made up of three groups, thus:—

1. Private patients — *a* Private patients actually insane.
2. Pauper patients — *b*. Pauper patients actually insane. *c* Pauper patients potentially insane

For reasons which have been explained the private patient class shows no residuum of inmates potentially insane, such as is shown in group *c* of the *pauper patient class*. We have also learnt that it is only their impecuniosity and the force of external circumstances that prevent the pauper patient class from being discharged under given conditions leaving no residuum *of potentially insane behind* them, exactly in the same way as the private patient class are discharged under given conditions and leave no potentially insane behind them. This being so, it follows that the true and actual insanity *of the pauper class is, for official* and statistical purposes, the same as the true and actual insanity of the private class of patients. But it has been demonstrated that the proportion of private patients to the population has remained *practically stationary* throughout the last 45 years: and, the true and actual insanity in the two classes being essentially the same, the conclusion is forced upon us, first, that the proportion of true and actual insanity among pauper patients has remained practically stationary as it has among private patients; and secondly, that the numerical increase of the notified insane is due to the retention and accumulation in pauper asylums of inmates who are only potentially insane (and who if at large possibly could not be re-certified unless some change for the worse took place in their mental condition).

What then would be my answer to the question so *often* asked, "Is insanity on the increase?" I would say: "The official returns for England and Wales show that while the number of notified insane persons is largely on the increase the proportion of true and actual *insanity remains practically stationary*." Our asylums are swamped by the accumulation of chronic cases among whom the "potentially insane" group figures largely and the authorities are at their wits' end to know how most *economically to dispose* of these cases. The unconditional and haphazard discharge from asylums of impecunious persons who are potentially but not actually insane into our midst would not be justifiable as it would introduce into the community an abundant source of anxiety and danger and create a sense of uneasiness and apprehension in the public mind. Again, the right and proper detention of the "potentially insane" in asylums cannot be regarded by the ratepayers as an unmixed evil, as they do useful work in the fields, workshops, and wards, and thereby keep down the cost of maintenance by saving an enormous outlay on the labour which would otherwise have to be employed. Finally, the stationary condition of the true and actual insanity among the notified insane is a gratifying and satisfactory indication that the mental stability of the country is not materially deteriorating and *that our* national decadence is not so imminent as pessimistic prophets would have us believe.

It is not to be expected that asylum authorities should be in a hurry to part *with those* of their potentially insane patients who are good mechanics *or* useful workers, and it seems to me *to* be quite beyond the powers of the already overworked Commissioners to exercise a *crucial* scrutiny in the thousands of individual cases that crop up for responsible consideration in the matter of their discharge from the asylum. Is, then, this redundant accumulation to go on for ever? or are we to have more Commissioners? or is the Royal Commission on the Feeble-minded *going to* solve the problem by recommending the formation of labour colonies with the kind of work and supervision that would just suit the potentially insane inmates of asylums and enable them to be discharged with safety and utility?

I am well aware, Sirs, that this question of the growth of insanity is a problem involving subsidiary issues and points of minor influence, but these I have not dwelt upon in order to avoid *complicating* details which would only tend to obscure the general argument without altering the main conclusions to which this inquiry has led up—namely, that if the discharge of "pauper" patients could be brought to *pass precisely as the discharge* of "private" patients is effected there would be left in asylums only the "actually insane" group in each class and there would be no retention and accumulation of the "potentially insane" and therefore *no such numerical increase of the* "notified insane" as the official returns show. The inquiry appears to me, further, to have emphasised the fact that however necessary, and even unavoidable, for official and statistical purposes the *crude division of the insane* into private and pauper patients may be there is no distinctive clinical or pathological difference in the insanity occurring in the two classes

Can nothing be done to equalise the conditions of discharge *in the two classes* and to help the impecunious to help themselves on convalescence and recovery? The boarding-out system which has answered so well in Scotland does not appeal successfully to English householders, but if the excellent work of the After-Care Association, which *for* want of funds is only as a drop in the bucket at present, could be developed a thousandfold some appreciable good might be done in this direction. There is no reason why every county should not have its After Care Association and *thus* actively participate in the good work of helping those who are handicapped in the struggle for existence on being discharged from the asylum. Again, I have always found the Salvation Army most ready to give their *efficient aid in this direction* and it is a pity that more advantage is not taken of the services of an organisation which is not only willing but able to supply the work and the supervision that are needful at a time when a helping hand *is all that is required* to secure beneficial and gratifying results in individual cases.

Apologising for the length of this letter,

I am, Sirs, yours faithfully,
DAVID NICOLSON, M D. Aberd,
Lord Chancellor's Visitor in Lunacy
Royal Courts of Justice, June 5th, 1906.

THE VALUE OF A SERUM (DOYEN'S) IN CASES OF MALIGNANT DISEASE.

To the Editors of THE LANCET.

SIRS,—*It is with regret that* we find it necessary to reply to Dr. Doyen's letter which appears in THE LANCET of May 26th, p 1496, wherein he comments on a paper read by us before the Royal Medical and Chirurgical Society on March 27th, and published in THE LANCET of April 7th

Dr. Doyen first of all complains that we have not reported on cases seen by us at his clinique and says that we "ought to have drawn up a report on these patients—viz, on the results of my method of treatment as carried out in my hospital and under my direction." With regard to the cases seen by us (together with Mr. Charles Ryall) at Dr. *Doyen's* clinique at Paris, we should like to state that a report was issued and presented to the governing body of the Cancer Hospital. At our first visit in March, 1905, we saw 40 cases, *at our* second visit in May, 1905, we saw 17 of these 40 cases, and at our third visit at the end of June, 1905, we were shown only eight cases which had been presented *to us on* our previous visits. Our report, then, *could only* deal with those cases which had been seen more than once, and these were 17 in number, of which eight only were seen on the *three* occasions. Our comments on *these 17 cases* were as follows:—

Of the cases seen at Paris there was "apparent" improvement in three—viz., L——, H——, and V——, *and in one* (P——) the growth was definitely smaller

L—— In this case what was thought *to be a recurrent growth* in the groin was found *to* be an inflammatory condition due to a buried stitch

H—— Here, *although the* small local nodules had sloughed after interstitial injections into them, the *patient's general condition* was worse, in that she had lost a *good* deal of flesh and her features were pinched.

> V——. In this case inflammation had disappeared in one fold of the scar and cicatrisation had followed. It is well known that such changes occur without the use of serum. The patient's age was 59.
>
> P——. The main feature in this case was the shrinkage of the tumour. How far one is able to attribute this to the serum which was given and how far to a natural process it is difficult to say, but it is well known that cancer of the breast in women of this age (47) often undergoes shrinkage apart from the use of a serum.
>
> In the remaining cases (13 in number) the disease was not beneficially influenced by the use of the serum.
>
> In conclusion, the evidence brought forward by Dr. Doyen is, in our opinion, not sufficiently definite to enable us to state that the serum had any permanent beneficial action in cases of malignant disease and this is supported by the results of the clinical study of the therapeutic action of the serum used at this hospital.
>
> (Signed) CHARLES RYALL.
> ALEXANDER PAINE.
> DAVID J. MORGAN.

You will observe that our opinion of the results of Dr. Doyen's method of treatment as carried out in his own hospital and under his own direction coincides with our opinion of the results of Dr. Doyen's method of treatment as carried out by us at the Cancer Hospital. We abandoned this treatment at the Cancer Hospital on June 19th, 1905. A month later a report was issued by the Special Commission appointed by the Société de Chirurgie and composed of MM. Berger, Monod, Nélaton, and Delbet, to study in Dr. Doyen's clinique the effects obtained in the treatment of different forms of cancer by the serum treatment described by Dr. Doyen. The cases were both selected and treated by Dr. Doyen himself at his own hospital. The following are the conclusions of the report of this commission:—

> The commission examined 26 patients suffering from cancer or from recurrence of cancer of various organs. Ten of these cases were treated by serum alone without operation, and the results were stated as follows: stationary condition, 1 case; no amelioration, grave condition persistent, 2 cases; aggravation, 6 cases; rapid aggravation and death, 1 case. Finally, the report states: "Let one eliminate everything one wishes to from the statistics which we have brought to your knowledge, there none the less remains this fundamental fact that during the five months in which we have examined all the cases which M. Doyen has wished to show us, we have not seen a single amelioration. Further, it seems to us that M. Doyen has been the victim of illusions which so easily carry away inventors who confound their hopes with the reality."

Dr. Doyen further states:

> *I then sent them information* that I could in no way accept a report of this kind, and that I could not take any responsibility for the treatment of patients *whom I had* not examined *myself* and in whose cases I could not determine *myself* the dose and the interval of the injections.

We have received no such statement from Dr. Doyen, and we would remind him that he visited the Cancer Hospital, that he there personally examined five out of the nine of our cases, and that he expressed his approval both of the suitability of the cases for his treatment and of the manner in which the treatment was being carried out.

Dr. Doyen further states that "cases showing negative results do not prove anything." Our reply is that we have seen neither at Paris nor London any positive evidence of the beneficial action of his serum in cases of cancer, but that in our negative results of "the value of a serum (Doyen's) in cases of malignant disease" we have produced *positive evidence* that the use of the serum was attended with grave constitutional danger in several of the cases and that it had to be abandoned.

Clinical Investigation.

As Dr. Doyen's criticisms may give rise to erroneous impressions that the injections *were given* indiscriminately, it may be well for us to show in detail that we have strictly adhered to *his method of* giving the injections. Dr. Doyen recommends that:—

First week ...	The first injection (of serum) should be given on the *first day.* The second injection (of serum) *should be given* on *the third day.* The third injection (vaccine) *should be given on* the *fifth day.*
Second week ...	The fourth injection (vaccine) *should* be given *on* the eighth day. The fifth injection *(vaccine)* should be given on the eleventh day.
Third week ...	Repeat as in *first week.*
Fourth week ...	Repeat as in second week,
	and so on.

In Case 8, as Dr. *Doyen states*, four injections were made in eight days. Reference to the above table *shows* that the fourth *injection* should be given on the eighth day. We would remind Dr. Doyen that *this is* not the same thing as "one injection every other day." In Case 4 five *injections* were given in 12 days, which is correct according to Dr. Doyen's table. In Case 9, where the duration of the treatment was 15 days, six injections were given, again agreeing with the table. In Case 3, here, by an oversight, June 8th should have read May 8th. This would give an interval of 38 days. The eighth injection, according *to* the table, should have been given on the nineteenth day, but the condition of the patient was such that the treatment had to be temporarily suspended. In Case 7, here Dr. Doyen is in error. He has mis-read our paper. The dates in our paper are from May 30th to June 19th—viz., 20 days, and not from May 20th to June 19th as he states. The table shows that the eighth injection should be given on the nineteenth day. In Case 2 the date here should have been June 26th and not June 22nd. This makes 12 injections in 31 days, agreeing with the table. Case 1.—15 injections *were given* in 41 days, agreeing with the table. Case 6.—16 injections were given in 47 days. The treatment here had to be suspended for four days. Case 5.—17 injections were given in 53 days. Here again the treatment had to be suspended, owing to the patient's condition, for eight days.

It will thus be seen that, allowing for the condition of the patients, the injections were carried out at the intervals expressly set down by Dr. Doyen. Further, as we have shown above, our results are identical with those which were obtained by Dr. Doyen himself and which were reported upon by the commission appointed by the Société de Chirurgie of Paris.

Experimental Investigation.

As regards this portion of our work, Dr. Doyen states that—

> The results obtained by cultures from tumours equally prove that these experiments have been carried on under *unfavourable conditions* ...... and it is evident that the method employed has been defective. Cultures of the micrococcus *neoformans* are sometimes very difficult to obtain; the large number of negative results mentioned in the memoir of the Cancer Hospital proves that these cultures have not been sown under the necessary conditions.

In reply, we would state that we have never had the slightest difficulty in isolating the micrococcus *neoformans* from the various growths when the organism has been present. Further, we have *found* that it does not require any *special medium for its isolation*. As we stated in our paper it grows quite as well on all ordinary media as in Dr. Doyen's "bouillon de mamelle de vache," and in our opinion the use of the latter medium is quite unnecessary *for the* isolation of the organism. With regard to the animal experiments, Dr. Doyen states:—

> I find *myself obliged to* form the same conclusion that these inoculations have not been made with virulent cultures.

Here we would remind Dr. Doyen that half the inoculations were made with two virulent cultures obtained by him from two distinct cases, and supplied to us by Dr. Doyen himself, and the other half with two separate cultures isolated by ourselves *from malignant cases*. The results in both cases were identical and negative as regards the *production of neoplasms* but positive as regards inflammatory reactions. That the organisms used were virulent was shown by the fact that in a large number of cases the animal died as the result of the inoculation.

In conclusion, we sincerely regret the absence of Dr. Doyen when our paper was read before the Royal Medical and Chirurgical Society as the misunderstandings which have thus arisen might have been avoided.

We are, Sirs, yours faithfully,
ALEXANDER PAINE,
DAVID J. MORGAN.

The Cancer Hospital, London, May 28th, 1906.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY.

To the Editors of THE LANCET.

SIRS,—The discussion between Mr H. J. Paterson and my*self* upon the relative merits of anterior and posterior gastro-enterostomy has elicited, I *think*, the chief of the arguments which may be offered by the advocates of each method. I desire only very briefly to refer to a few points which Mr. Paterson mentions in his last letter. Mr. Paterson repeats that the no-loop posterior operation is "mechanically *incorrect*," and in reply to my statement that "all the evidence that exists shows that it *alone* among *all methods* is the one which is free from mechanical complication" quotes Dr. W. J. Mayo and Mr. E. Ward. The value of Dr. Mayo's opinion upon a matter such as this cannot be exaggerated. But I could not quote it or take it into account, for when my letter appeared it had not been published. But Dr. Mayo himself attributed the ill result in his two cases to "faulty technique" and to avoid a recurrence of such complications he has modified his operation but it still remains a posterior no-loop operation.

So far as the question of internal strangulation is concerned I pointed out that in all the cases which had afforded any evidence the meso colic opening had been found securely closed and hernia had therefore not occurred. Mr. Paterson says the evidence is "valid so far as it goes," but that "it is incomplete." Quite so; but incompleteness is a necessary quality of almost all the evidence relative to all surgical procedures. Surgeons do not work in lasting material but this is no reason why we should hesitate to express an opinion upon the experience which is at our disposal. Mr. Paterson does not appreciate my argument as to the "water-logging" of the jejunum. He offered me an analogy which was clearly inapplicable and I suggested a better one to him—that of an intestine otherwise healthy fixed by an adhesion or a diverticulum and becoming obstructed because of the distension of the proximal limb. Mr. Paterson accepts this analogy and says: "Surely when water-logging occurs in such cases it is secondary to mechanical obstruction." I think not. A diverticulum exists from birth, an adhesion for years, and obstruction comes acutely. Why? I expressed the belief that distension of the gut might bring about obstruction and in this I am merely quoting the opinion of the greatest living authority upon such matters.[1]

Mr. Paterson's explanation of the relief of regurgitant vomiting by entero-anastomosis is certainly "simple" as he claims but it is not in accordance with the facts. He says: "After entero-anastomosis the loop is drained by the new opening and the stomach contents can readily escape through the *afferent* opening into the proximal limb and thence through the entero-anastomotic opening into the efferent jejunal limb." But in one case where an entero-anastomosis had been performed a peptic jejunal ulcer developed in the *afferent* limb showing that this was open to the passage of stomach contents. The explanation in this, and probably in the majority of cases, is, I maintain, that the loop becomes water-logged because of its abnormal fixation, kinking results, the water-logging is relieved by the entero-anastomosis, and the openings afferent and efferent again become patent. So I take leave of my friend Mr. Paterson who has, I think all will agree, stated his arguments throughout with conspicuous ability and moderation.

What am I to say to Mr. Ward? I confess that at first I was not a little disconcerted by his reply to me in THE LANCET of May 26th, p. 1498. I have been so long used to the scrupulous courtesy of Mr. Paterson as an adversary in debate that the vehement onslaught of Mr. Ward, with its manifold personal attack, found me unprepared and created an atmosphere to which I had been happily unaccustomed. For polemics of the kind Mr. Ward adopts I frankly admit I have neither aptitude nor liking. It is, I regret to find, a deplorable but seemingly inevitable result in a discussion upon matters of priority in surgical procedure that one of the disputants lapses early into irrelevancies of a personal character. Mr. Ward reminds me of our long association. It is that which would make any thought of reply to this kind of attack absolutely abhorrent to me, though perhaps I may never again encounter so vulnerable an opponent.

In his first letter Mr. Ward put forward a claim for Mr. Littlewood in two features of the operation of intestinal anastomosis, "the use of rubber-sheathed Doyen's clamps" and "the excision of an ellipse of mucous membrane from each viscus." I was able to show beyond the possibility of dispute that the first part of this claim was asserted not only in defiance of dates but that it was opposed to any the slightest knowledge of the literature and that it was refuted by the words Mr. Littlewood himself had used. Mr. Ward now substitutes a modified claim to a "special application of the clamps." Such a claim is bereft of that "authorship" upon which Mr. Ward insisted and even in this mutilated form it is quite untenable. For Doyen used, and depicted the use of, the clamps in the operation of gastro-enterostomy to fulfil the special objects Mr. Ward enumerated. Did it ever occur to Mr. Ward to ask for what the clamps were invented, if not for the very purposes he has named? The truth is that this claim has not in its original or in its modified, or indeed in any, form the slightest foundation.

In the matter of excision of the mucosa I am happy to have elicited after six years a date for the supposed origin of this. But I protest that in accompanying this announcement with a fantastic embroidery of insinuation and with such astonishing inferences Mr. Ward reaches the bounds of courteous discussion. The method he has thought proper to adopt in giving his evidence is that best calculated to discredit it. I therefore obtained, by Mr. Littlewood's kindness, permission to see the infirmary record in his possession with an interesting result. Mr. Ward has given a wrong date. It cannot surely be that memory so recently refreshed has failed him whose comments upon such a possibility in another are so graceful! Yet Mr. Ward expressly said he had obtained "the precise date." Of what account now are the impressions of years ago when the facts of yesterday are incorrect? I find further that Mr. Littlewood in the case referred to only removed a piece of mucosa from the stomach; it is plainly stated that no mucosa was removed from the jejunum. Mr. Ward wrote in his claim "the excision of an ellipse of mucous membrane *from each viscus*." Such a procedure it is now clear was first performed by myself, and I owe the suggestion, as I said, to the principle of the Murphy button, which "stamps out" a piece from each organ.

I am told again by Mr. Ward that the method Mr Littlewood described, combining the use of clamps and the excision of the mucosa, is essentially the operation to which Dr. W. J. Mayo gives the name of the Moynihan operation. Vain repetition is not argument. Even if the claim to priority Mr. Ward asserts could be established, which it cannot, it would make no difference to my answer to this point. The two operations are dissimilar in every essential point but one, the excision of the mucosa. Of that everyone who will read the two descriptions will be convinced. If I have failed to make this clear, then though my sound has gone out into all lands my words have not reached the ear or appealed to the intelligence of my neighbour. Claims to priority in operative procedure are of all things the most paltry with which the pages of surgical literature are encumbered. Mr. Ward broke in upon Mr. Paterson and myself with the statement that in our discussion "a piece of epoch-marking work was in danger of losing its identity" when not one word had been written by either of us to justify such a remark. I was called upon to support the claim that was then made and Mr. Ward would not be denied. I have accordingly been compelled, with the greatest reluctance, to state the facts.

I am, Sirs, yours faithfully,

June 2nd, 1906. B. G. A. MOYNIHAN.

TRAINED MEDICAL RESERVES FOR WAR

To the Editors of THE LANCET.

SIRS,—In a few weeks it will be 25 years since I raised in your columns, in 1881, the general question of medical reserves for our army in war-time by advocating the training of medical students in ambulance work according to army methods. The Royal Army Medical Corps Volunteers have practically grown up out of the suggestions then put forward but a trustworthy reserve of medical men for war is still unrealised. And why? Because no definite attempt has been made by the War Office to organise the student body while students, so that at the end of their studentship and when fully qualified they might automatically form the basis of a true medical reserve of specialised young medical men ready to help the regular medical service effectively in war.

It was, of course, necessary when first preaching the Red Cross crusade which led to the formation of the Royal Army Medical Corps Volunteers to speak specially to the medical schools and their students, because they were the only organised bodies to whom such addresses could be given, but it was never my aim to allow these students to remain intermingled with the ordinary Royal Army Medical Corps lay volunteers, and to elucidate this idea in 1884 I published a special pamphlet on the "Cadet Companies," which it was always my aim to form *of students only*. I was in those days medical officer of the Royal Military Academy at Woolwich and was anxious to copy its organisation, so far as was possible, on a volunteer organisation. Had any real effort been made to form a trustworthy reserve the student body could not have been overl they practically have been. For I call it "overlooking" if that most valuable potential asset, a trained medical student, is treated by the State exactly as if he was an ordinary volunteer private so far as capitation allowance and boons and training are concerned. It seems too ridiculous that the State should be unable to perceive that the trained medical student is well worth a high capitation and very special treatment as regards training facilities in view of his future usefulness in war when qualified.

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[1] Treves: Intestinal Obstruction, p. 78.

So long as the student is merged in a corps of ordinary volunteer laymen it is impossible to give him special terms and special training; hence it is essential that special student corps be formed with special grants, special officers, special training, and special advantages both while students and after receiving diplomas.

I now, after 25 years, again say in your pages that the true basis of a war reserve is to be found in giving special training to the students and in addition giving them distinct boons if they so train. What then do I suggest? 1. That the senior medical students be entirely removed from the ordinary Royal Army Medical Corps Volunteers and formed into one cadet battalion Royal Army Medical Corps for the three kingdoms, with companies in certain cities? 2. That the student be put to no expense whatever if he joins such a corps. That a capitation grant, full and ample, be given him quite beyond the grant given to the ordinary lay volunteer. Mr. Brodrick, when Minister of War, assured me himself that he thought a £5 a year capitation quite a moderate one for so valuable a person as a potential doctor. 3. That a special adjutant and instructors be allowed the cadet battalion. That a special paid commandant from the Royal Army Medical Corps be appointed to it. 4. That in addition to drills and lectures 14 days' field training in three consecutive years be given the students with pay as for the regular army and all expenses of food and transport be paid by the State for the training period in camp. That the uniform be made so similar to Royal Army Medical Corps officers that with a little addition of badges, &c., the student could wear it when he gets his diploma as a volunteer reserve officer. That special prizes be given by the State to the corps of cadets for efficiency. That in competing for commissions in the Royal Army Medical Corps certain marks be given for efficiency gained in the school companies so that physically fit and mentally active men may join the Royal Army Medical Corps as officers of the regular service. That "under officers" as at the Royal Military Academy at Woolwich be chosen out of the students and be specially compensated for efficiency. That special equipment be given such a company for practice and training. That special facilities to learn to ride be given them. That only physically fit men up to the physical army standards be so trained. That the number be limited and the more senior students be chosen rather than the junior. That expulsion be possible for grave neglects or misdemeanours. That the total number be so framed as to provide for possible army and navy wants in the regular services and a suitable reserve for both services. That in accepting students into the Cadet Battalion, Royal Army Medical Corps, only men who have passed the first half of their professional examinations be accepted. That the recommendations of their teachers be an element in the choice of candidates. That if a student is willing he can go through the 42 days' field training "off the reel" and be set free from further training on passing an examination in the course. That the cadet company allotted to Ireland be treated as a militia company as there are no volunteers in Ireland. That the corps be in number about 300, 150 being in London, 50 in Dublin, and 50 in Edinburgh, and sections in the smaller centres of medical education, but all to assemble annually for drill and at a fixed centre like Aldershot in the Long Vacation. That students in the Cadet Battalion who have passed their examination in the military subjects should on getting their diplomas be *de facto* commissioned in a medical reserve for war for three years, the military subjects to be military hygiene, hospital organisation, drill and discipline of the Royal Army Medical Corps, and army regulations and riding. That it be considered all such cadets should have the status of non-commissioned officers or warrant officers while under training and not that of private volunteers so as to receive a fuller pay rate in camp.

These suggestions endeavour to use our volunteer and militia regulations to specialise the students of medicine at an earlier date for military work and so to prepare for any grave national emergency that may overtake the Empire. All subscriptions from private sources or private volunteers should be unnecessary and the State should provide the total charges, the State to provide headquarters, which should be at or near a military hospital.

I am, Sirs, yours faithfully,
GEORGE EVATT,
Surgeon-General, late A.M.S.
London, June 2nd, 1906.

REFORM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—I feel sure that you will allow me to express my amazement at the interpretation which Mr. Tweedy has thought fit to place upon my letter. I should no more think of accusing the College Council of offering a bribe than of accepting one, and I emphatically deny that either explicitly or implicitly I made any such suggestion. To ask a man to dinner is not bribery; during a Parliamentary election it may possibly be "treating," but at ordinary times it is what I said it was, "keeping on the right side" of him. I venture to submit that Mr. Tweedy's indignation is a little overdone. He knows the constitutional history of the College probably better than any man living; he therefore knows that again and again in the past the efforts of reformers have been thwarted by the influence—possibly the legitimate influence—of members of the Council with the powers that be—viz., the Government of the day. Would it be so very extraordinary if this influence were once more exercised? Mr. Tweedy has, in his well known pamphlet, quoted with approval the dictum of THE LANCET that the Charter of 1843, which still determines the constitution of the College, was—like that of 1800—"obtained by misrepresentation and fraud." He is not therefore surprised at the agitation among the Members for restitution of their ancient rights, which he describes in the same pamphlet as a "late manifestation of an abiding resentment."

This resentment has been intensified by the action of the Council, which has treated the Members' proposals with contemptuous indifference, returning the same stereotyped reply year after year. Is it therefore to be wondered at that some such proposal as a professional boycott should have been made, since the Members are in all College matters systematically boycotted by the Council? No one will be more distressed than I should things reach such a pitch and although the proposal has been urged upon us for years we have never before publicly referred to it. As to whether it be more "immoral" than the present attitude of the Council towards the Members' claims opinions will, no doubt, differ, but if adopted it would prove to be anything but "ridiculous." If the Council measure the interest taken in this question by the attendance at the annual meetings they are making a very serious mistake.

I am, Sirs, yours faithfully,
W. G. DICKINSON.
June 4th, 1906.

THE TREATMENT OF ASCITES.

To the Editors of THE LANCET.

SIRS,—I have read an account of a case of ascites, which was tapped 69 times, reported by Mr. Frederick H. Maberly in THE LANCET of April 21st, p. 1108. The case is interesting and instructive when the amount of fluid which must have been removed during the repeated tappings is considered. I am deeply interested in the mention of a belt used by the patient and would like some further information on this point. I have on several occasions seen cases treated by Dr. Alexander Morison where the re-accumulation of the fluid has been prevented by the use of plaster strapping applied after the tapping of the ascitic fluid. I have been struck by the great value of the simple and apparently overlooked procedure in the treatment of ascites.

In one patient who was under my care suffering from tuberculous peritonitis with a large accumulation of fluid the above line of treatment was carried out without the preliminary tapping and the support given by the repeated strapping did away with the necessity for tapping. The patient made a good recovery and two years afterwards was reported as being quite well.

A second case was that of a woman, aged 45 years, the subject of alcoholic cirrhosis of the liver with ascites. She made excellent progress when treated by a preliminary tapping and plaster strapping over the entire abdomen but it was found impossible to continue the strapping on account of the irritation produced on the skin of the abdomen. In this case I used an abdominal belt with a rigid anterior surface, under which I placed a large indiarubber pad internally; the pad occupied the whole surface of the belt, it had a small stop-cock attached, through which air could be pumped at pleasure. The internal pressure of the pad could be increased or diminished at will. The patient made a good recovery and up to the present date (one year after treatment ceased) has had no recurrence of ascites and is in good health. No improvement took place in the patient's condition until the pressure was applied; indeed, up to the time when it was commenced the fluid had been gradually accumulating and the patient was just on the point of being tapped for the second time when the pressure was applied. The immediate effect of the application of pressure was a gradual and steady increase of the daily output of urine and a steady diminution in the quantity of fluid in the abdominal cavity. When she was last seen there was no fluid to be detected in the abdomen.

I trust you will pardon the narration of this case at such length but I think it well to quote this method of treatment which, in Dr. Morison's hands, has met with such marked success.

In Mr. Maberly's case the use of the belt does not appear to have reduced the quantity of fluid, but I note he quotes its use as being a support of the abdominal walls and possibly the pressure employed may not have been sufficient to have increased the intra-abdominal pressure, a very important point in the treatment of all cases of ascites where the object of the use of any form of abdominal pressure should be to promote the absorption of fluid by giving the lymphatic system the help it so greatly needs in the disposal of the excessive accumulation of fluid.

I am, Sirs, yours faithfully,

Highgate, June 1st, 1906. ROBERT KNOX, M.D. Edin.

PROPOSED AMALGAMATION OF THE LONDON MEDICAL SOCIETIES: A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—Referring to the letter which appeared in your issue of March 17th, p. 789, I wish to say with regard to Mr. Goodsall's statement that, although I have no definite recollection of my conversation with him, he has recalled the circumstances of his visit to me, and I have no doubt that I expressed the opinion that the building was good for at least another 50 years. Mr. Goodsall was evidently under the impression at that time that I was engaged professionally upon the structural alterations when the Royal Medical and Chirurgical Society took possession. This, however, was not so. Now that I have examined the structure I have no hesitation in stating that it is thoroughly sound and should last as long as any other erection of its age and class in London. I am, Sirs, yours faithfully,

Hanover-square, London, W., June 1st, 1906. JOHN BELCHER.

MEDICINE IN THE SOUDAN.

To the Editors of THE LANCET.

SIRS,—The vast expanse of territory known as the Soudan can only be regarded as in its infancy. The population a few years ago was variously estimated at from 8,500,000 to 15,000,000, but owing to the disastrous Dervish rule under the Mahdi and his successor it is at present believed to be less than 2,000,000. There is every reason, however, to hope for a rapid improvement in this respect, one of the most encouraging points being the very large proportion of young children to be met with in most of the provinces. In Dongola the number of children under nine years of age is estimated at 43,000, or 32 per cent. of the total inhabitants. Under the head of public health in Lord Cromer's last report, which you have already reviewed, it is stated that the campaign against malaria is being continued throughout the country. Vaccination is being vigorously pushed, at least 50,000 individuals having being vaccinated last year against 12,000 in 1904 and about 7000 in 1903.

Dr. J. B. Christopherson, the head of the civil medical department, writes hopefully about the public health in Lord Cromer's report: "It is possible," he says, "to strike a cheerful chord this year. The Soudan is not the fever stricken, small-pox ravaged country into which the Egyptian diseases (ophthalmia, bilharzia, and anchylostoma), are rapidly being introduced, while sleeping sickness is advancing, cholera and plague threatening Port Soudan, and leprosy creeping in from the West. What are the facts? There are five provinces at least which are practically free from the malaria infection—fever cannot originate there—namely, Halfa, Dongola, Berber, Khartoum, and Suakin; and, with the introduction of suitable dwellings and energetic mosquito brigades, other provinces will be freed from malaria. Small-pox shows itself occasionally, but if the country can be vaccinated throughout small-pox will disappear. Great advances towards this end have been made during the last year or two. The carrier of sleeping sickness has been caught in Soudan territory, it is true, but so far not a single case of sleeping sickness has been imported. Quarantine regulations have been instituted for Port Soudan and for the Soudan generally; and the arrangements at Halfa have been so far successful that plague and cholera have been kept out. Egyptian ophthalmia is decidedly uncommon, and bilharzia and anchylostoma, the two principal Egyptian diseases, have not taken hold of the natives to any extent. Lastly, the natives are amenable to medical treatment, so that there is little difficulty in carrying out measures for the security of the country against epidemics so far as active opposition from the people is concerned." "It is satisfactory," adds Lord Cromer, "to know that the natives of the country are gradually gaining confidence in the hospitals. A native correspondent recently wrote to the *Soudan Times* in the following terms 'A few years back the arrival of a medical officer in a village meant a general alarm; everybody sought a hiding place. Now, things have changed in such a manner that native patients flock to the hospitals to be treated.'"

The passages which I have quoted seem to me to bear striking testimony to the fact that scientific medicine will form one of the strongest bonds of international union in the future. I am, Sirs, yours faithfully,

A TRAVELLER.

May 25th, 1906.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University Library and the Medical Institute.

THE University library contains a very valuable selection of books and periodicals dealing with scientific subjects associated with medicine—that is, with anatomy, physiology, and pathology, but these have not hitherto been at the disposal of the practitioners of the city and neighbourhood except by special permission. On the other hand, the library of the Medical Institute is well provided with current medical literature which could only be consulted by members of the University staff, who were not members of the institute, after application to the authorities of the institute. The periodicals and the books possessed by the University and the institute are complementary to each other and now and then occasions arise when the members of one institution desire to consult the books or periodicals possessed by the other. Permission for such consultation has never been denied, so far as I am aware, but delay may occur in obtaining it. Therefore, it was suggested that the libraries of the two institutions should be open to the members of both on condition that each member using the library of the institution to which he does not belong shall sign his name and address in a book kept for the purpose. This suggestion was put in a concrete form at a meeting of representatives of both institutions. I understand that it has now been agreed to by the library committees of both the University and the Medical Institute and that the necessary instructions have been given to the librarians. The arrangement is most welcome, for it extends the scope of each library very considerably.

Infant School Reform.

If our race is to be continued not only as strong and healthy as it has been but also improved then there is no doubt that careful attention must be given to our young children and it is essential that the natural growth of their mental capabilities shall not be interfered with and stunted. In association with this subject Miss Byett read a most interesting and sympathetic paper at a recent meeting of the Birmingham branch of the National Union of Women Workers, in which she showed how little in reality the children had been considered when arrangements were being made for their care. In the first place, she touched upon the much disputed question of sending infants under five years of age to school and she pointed out that the practice was condemned by medical opinion and was encouraged in no other country than our own. In the second place, she showed how peculiarly ill adapted schools are for the encouragement of the child's natural development. The hours are long, the schoolrooms are dull, badly lighted, not well ventilated, and under present conditions the children must be held under strict control. The result is that in a room full of young humanity a most unnatural silence prevails. The picture is a striking one and contrasts markedly with the conditions required for the proper development of all young animal life and brain power, these conditions being freedom, light, air, and absence of restraint. The child should have unlimited opportunity of using all the faculties during the hours he or she is awake and any attempt to concentrate the attention for more than a very limited period can only be harmful by overtiring a portion of the nervous system and so not only directly injuring that portion but also indirectly doing harm to other parts by depriving them of their proper exercise. Miss Byett's suggestions for the improvement of present conditions are excellent, for they include more and better provided playgrounds, the formation of smaller classes, and more individual attention. Difficulties arise, however, when we ask how these very desirable conditions are to be attained. Of course, if money can be provided there is no difficulty but the limit to which that section of the community which pays taxes can be called upon is being rapidly approached and unless taxation can be more fairly and evenly distributed than it is at present, there seems but little possibility of the necessary means being secured. The natural thing is for the young child to be under the mother's care and the devolving of her responsibilities upon other people should not be encouraged, for it cannot be expected that the sympathy and appreciation so necessary for the young child can be given by others so well as by the mother. If this were thoroughly understood it is possible that the number of infants placed in the public care might be materially reduced, only those children being sent to school whose parents were precluded by the necessities of their lives from attending to them during the day. It might then be possible to put the smaller numbers into smaller groups and so diminish that restraint which is at present necessarily imposed and which is so injurious both to mental and bodily development, for there is not the slightest doubt that bodily and mental growth are dependent upon the constant and happy use of the various bodily organs and senses. On the other hand, evidence is not wanting, both in this and other cities, that the public temper is getting so irritated at the increasing cost of the education, care, and feeding of children that those who have control of the public purse are beginning to see that they cannot extend their efforts much further. More especially they see that they cannot enter upon costly experiments, and arrangements for treating children in the way best adapted to the encouragement of their development would be very costly. Many of us would be willing to face some sacrifice for so important an object but we should face it the more willingly if the public authorities would show that the cost was being equally borne by all sections of the community.

June 5th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The University of Manchester.

THE University grows rapidly and each new development brings with it new wants or requirements. During the last few years the number of students and the range of teaching have much widened. So far, however, there have been few facilities for social communion among the students outside the class-rooms. There are some small, inconvenient, and uncomfortable rooms in a house in Oxford-road called the Men's Union rooms, and on the women's side a similar state of things exists. There is no other provision for social intercourse. In all other British universities, I believe, there are club premises with some sort of provision for social intercourse and the famous unions of Oxford and Cambridge have long been recognised as valuable institutions. The absence of such unions is felt by the University of Manchester. The subject has been much discussed by members of the University Council and Senate, with the result that it is decided that the remedy is to erect a union building modelled on those of the older universities. The proposal is to have one large building divided into: (1) a refectory to be used by all members of the University; (2) a women's union; and (3) a men's union. The Council of the University has offered an admirable site and has decided to build the refectory at the cost of the University. Plans have been prepared and the cost is estimated as follows: refectory, £8000; women's union, £5000; men's union, £10,000. The cost of the first two is provided by money left for the benefit of the women students and by the University, but the scheme cannot proceed till the third sum is assured. The students feel that in the circumstances they can appeal to their friends for help in raising the £10,000. Other universities have done so with success and there seems no reason why Manchester should fail. Sir W. Mather is the chairman of the executive committee of the fund, among the members of which more than £1000 has been raised to start the fund. The scheme, of course, applies to the whole University and it is unnecessary to point out that the medical members will share in all the benefits that will follow from its accomplishment.

The Motor Scourge.

On May 28th a resolution of the general purposes committee of the Levenshulme district council was approved, calling attention to the "terrible nuisance and damage caused by motor vehicles in the district." It was said that a serious danger accrued to persons on the highway from the smoke, grit, and smell and the "raining of clouds of dust such as rendered the sight of other vehicles impossible." It was also suggested by the committee that the revenue from the further taxation of motor-cars should be used "to reduce the damage suffered by the residents on roads, particularly shopkeepers." This latter seems a curious preference. No doubt the shopkeepers on roads infested by motor-cars suffer much pecuniarily from the dust, but so does the dweller in the neat, even if small, "suburban residence" next door. The thing to be aimed at is not compensation for damages but the doing away with the nuisance. On some of the roads about Manchester the reduction in the value of house property has been most serious and the number of empty houses shows that the electric trams, of which Manchester is rather proud, and the motor cars are not unmixed blessings. The various attempts to produce a road surface not to be stirred up into dust are praiseworthy. THE LANCET has referred already to one of these attempts, said to be remarkably successful as an experiment, which has been tried recently by the Northwich urban district council. The roads have been watered from an ordinary watering cart with a solution of calcium chloride. It is said that it has proved an admirable dust preventive and having regard to the longer time during which it was effective it was not so costly as ordinary street watering. The attention of the makers of the cars should be directed to the best means of preventing or of sucking up the dust, so that dwellers by the roadside may not be driven to anathematise a useful invention.

Blackburn Infants.

The terrible and scandalous slaughter of infant lives is leading to efforts for its prevention not only by those who are officially in charge of the health of the community but also by others anxious for the well-being of their country. Some of these efforts take the shape of rewards of money for the mother of a 12 months' old baby in the hope that she may be influenced by cupidity as well as by natural affection but in Blackburn a somewhat different machinery is being tried by Dr. M. Bannister and members of the Christian Social Union. They have resolved to take during the next year 50 or 60 young mothers and to feed them well for a month in order to encourage breast-feeding and the disuse of artificial foods. It is not clear when the month's feeding is to be given, whether before or after confinement, but if carried out judiciously it cannot but benefit the mothers as well as the babies. Much of the poor feeding of the women is due to ignorance, the result of our faulty scheme of education, and much also to their employment in mills which lessens the time they have to give to their homes, so that the use of ready-cooked tinned food is too prevalent. The result of this experiment will be watched with interest and all the more if the mothers are taught how, and are willing, to help themselves.

Food Inspection on the Ship Canal.

The various authorities along the Manchester Ship Canal have hitherto had the power of inspecting, and, if unsound, of condemning, all food-stuffs consigned to the port of Manchester, but this was attended with some disadvantages and the port sanitary authority in the meantime was without this power. Recently, however, the Local Government Board made a Provisional Order conferring these powers on the latter authority. In the first instance the corporation supported the application for the Order. Then, after the application had been made and duly inquired into without opposition, the Ship Canal Company represented that the powers asked for, if granted solely to the Port of Manchester, would be detrimental to the interests of the company by diverting traffic to other ports where these powers do not exist. The corporation, therefore, has been persuaded to ask the Local Government Board to defer the Order till a uniform change of regulations could be made in other ports, including (of course) Liverpool. It is a curious position, but the sooner there are no gaps in the arrangements for proper inspection of food coming into Manchester the better for the community. The revelations from Chicago add interest and piquancy to food questions

Royal College of Surgeons of England.

Mr. George Arthur Wright, B A., M.B. Oxon., F.R O.S Eng., is a candidate in the coming election to the Council of the Royal College of Surgeons of England. He is professor of systematic surgery in the Victoria University and surgeon to the Manchester Royal Infirmary and was formerly examiner in surgery at the University of Oxford.

June 5th

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Bequest to Gateshead Dispensary.

BY the will of the late Councillor George Gilhespy the sum of £10,000 was bequeathed to the Gateshead Dispensary "to be applied for the purposes of that institution in such manner as the governing body thereof might think fit, and without in any manner limiting or controlling their discretion as to the disposition of the same or the income therefrom" the testator expressed a desire that the income, or some part of it, might be applied for "the purpose of dealing with, or of assisting to deal with, cases of accident to persons injured in any of the factories, works, or other places of business in the borough of Gateshead or in the immediate vicinity thereof." This legacy, less duty thereon, has just been paid over to the treasurer of the institution.

Hospital Sunday Fund.

At a meeting of the committee of management and distribution of the Newcastle upon-Tyne Hospital Sunday Fund an interim cash statement was presented which showed that there was a balance of £395 3*s*. 3*d*. brought forward from the last account and that the collections in places of worship and manufactories amounted to £4129 5*s* 4*d* —£1787 10*s* 1*d*. and £2341 15*s*. 3*d*. respectively. The receipts, with the balance referred to, totalled £4540 8*s*. 7*d*. and the expenses amounted to £332 3*s*. 11*d*. The fund is maintaining its position but it is a matter of regret that some of the large works have fallen away from the fund, also that church collections showed a decrease of £23 0*s*. 8*d*.

Margarine as Butter.

A flagrant case of substitution has just come to light in the police-courts. John Mardon, aged 50 years, a provision merchant in Middlesbrough of over 30 years' standing and an ex-town councillor, was charged with breaches of the Merchandise Marks Act and the Margarine Act by applying a false description to goods sold. It was stated that Mardon had a shop in South Shields as well as a stall in Middlesbrough Market and in other markets in the district. Owing to a communication from certain people in the trade, who found that they could not compete with Mardon, Mr. Faber, the Danish Agricultural Commissioner in London, visited Middlesbrough in March last and caused purchases to be made at Mardon's stall. Samples of what was sold as pure Danish butter were sent to the public analyst who certified them to be margarine. Margarine at the time was being sold at 4*d*, 6*d*, and 8*d*. per pound, whilst the price of pure Danish butter was 1*s* 2*d*, so that Mardon was reaping a rich harvest and at the same time preventing honest dealers from having a chance. The defence was raised that the cards "Pure Danish Butter" and "Margarine" had been put in the wrong places by mistake and the stipendiary was asked to regard the offence as one of carelessness. The magistrate could not accept the defence and as the prisoner had been convicted at Darlington and Middlesbrough he was sentenced to four months' imprisonment.

Report on Tuberculosis.

Dr. Henry E. Armstrong presented an interesting report on this subject to the sanitary committee of Newcastle-upon Tyne. The whole subject is carefully reviewed and such questions as the control of the milk-supply are fully gone into. He strongly insists on the urgent necessity of having properly trained and certified meat inspectors. In Newcastle there are three skilful and experienced officers but though their work is well done there is ample opportunity for the concealment and disposal of diseased meat in the slaughter-houses of so large a city. Dealing with the notification of tuberculosis Dr. Armstrong says that every sanitary authority should have the means of isolating early cases of consumption and other forms of tuberculosis attended by evacuations and discharges, and that the isolation of advanced cases is as urgently necessary in the interest of public health as for any infectious disease. To carry out the eradication of tuberculosis Dr. Armstrong advocates the establishment of a special authority—a national authority—to administer and to execute measures required for the national treatment and prevention of tuberculosis.

June 5th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Sanitary Condition of Merthyr Tydvil.

DURING the past 40 years the sanitary condition of Merthyr Tydvil has been subjected on several occasions to inspection and report by officials of the Local Government Board and of the General Board of Health. It is a little difficult to decide to what particular circumstances should be ascribed the unsatisfactory position which Merthyr holds among other large industrial centres in England and Wales. It is true there have been periods of depression in the iron and coal trades, when there was little money to spend upon sanitary improvements, but the increase in the population from 46,378 in 1851 to 69,228 in 1901 alone shows that there have been prosperous times as well as unprosperous The activity of the sanitary authority appears also to have been intermittent and for long periods it is to be feared that it has been more or less dormant. Although one of the first authorities to appoint a medical officer of health, the local board of health which was constituted in 1850 for a long time seemed to think that having installed this officer very little more remained for it to do The members of the urban district council which succeeded the board of health in 1895 were apparently imbued with the same spirit for until quite recently the number of sanitary inspectors was quite insufficient for the needs of the district. The latest inspection on behalf of the Local Government Board was made by Dr. J Spencer Low in the autumn of last year. Dr. Low's report, which has just been published, discloses a very distinct improvement since the previous official inspection but it also shows that there is still a great deal to be done in the way of increasing the comfort and enjoyment of life of a large section of the population of the town which in November last was raised to the rank of a municipal borough. An account of the unsatisfactory condition of many of the houses in the borough forms a large part of Dr. Low's report and he expresses the opinion that if better and more abundant dwellings were available for the working-class population there would follow in due course a disappearance of existing insanitary areas as ell as a reduction in the general death-rate of 22·0 per 00, of the zymotic death-rate of 4·6 per 1000, and of the fantile mortality-rate of 204 per 1000 which prevailed in 05. About four years ago the sanitary authority erected 0 houses which are let at a monthly rental of 22*s.* 8*d.* Each ouse contains two living rooms and a pantry on the ground oor and three bedrooms above. In the yard are a coal-house nd a water-closet and there is a strip of garden attached to ach house. There is no difficulty in finding tenants for these ouses but in some instances the rooms have been sublet nd overcrowding has resulted. These houses are evidently atisfactory for Dr. Low advises the erection by the council f still more. Another recommendation which he makes is he appointment of one or more female health visitors in iew of the enormous infantile mortality in the district. He considers that much good would accrue if such isitors were appointed solely for the purpose of inducing omen to feed and to wash their children properly and to eep their homes clean. He also advises that nuisances hould receive the immediate and sustained attention of the ouncil and that a refuse destructor and a public slaughter-house should be provided.

Winsley Sanatorium.

The Winsley sanatorium for consumptive patients residing in the city of Bristol and in Gloucestershire, Wiltshire, and Somersetshire has been occupied by patients for about 18 months, so that the first annual report of the working of the institution is of interest. The original buildings provided accommodation for 60 patients but chalets have recently been erected for eight more. The total capital cost was about £33,000 and the weekly cost of maintenance, which was estimated at 25*s.* per patient, was actually during the past 12 months 24*s.* 5*d.* There is still a debt of nearly £14,000 on the land and buildings in spite of the principle which was adopted when the institution was established. That principle was essentially the allocation of beds to subscribers in the proportion of one bed for each donation of £250 and an annual subscription of £65. In this way the corporation of Bristol has the control of 20 beds and the corporations of Bath, Gloucester, and Swindon have also secured the right to nominate patients. There are still seven beds to be allotted in the manner indicated. During 1905 there were 180 patients admitted into the sanatorium, 129 were discharged, and two died. 17 patients showed no sign of improvement on discharge, 30 showed marked improvement but required still further treatment, 33 were considerably improved, and 49 were sufficiently improved to be able to resume work of a suitable character.

Vaccination Prosecutions.

At the meeting of the Clutton (Somerset) board of guardians held on June 1st a member, in accordance with notice of motion, moved that, seeing the circular issued to magistrates under Section 2 of the Vaccination Act of 1898, by the Home Secretary, no prosecution be authorised by the Clutton board of guardians against any person who had applied to court for a certificate of exemption and had been refused; this was seconded, but after some discussion it was eventually decided to send a letter to the vaccination officer calling attention to the Home Secretary's circular and stating that the guardians were of opinion that where applications had been made to the magistrates and refused prosecutions ought not to be ordered and it was also decided to send a statement to that effect to the Local Government Board.

The Royal Sanitary Institute.

A provincial sessional meeting of the Royal Sanitary Institute was held at Bournemouth on May 26th. Mr. P. W. G. Nunn, the medical officer of health of Bournemouth, read a paper on Sanitary Administration in a Health Resort. In the course of a discussion which followed Dr. Joseph Groves, the medical officer of health of the Isle of Wight rural district, insisted that every resident in a district governed by a local authority had the right to demand the sanitary condition which the law afforded him but in a health resort they had to do more than that, they had to recognise the sentiment of hospitality and to take all possible measures that visitors should not be exposed to any avoidable risks. Mr. W. B. Barclay, the medical officer of health of Weymouth, alluded to the overcrowding of health resorts.

June 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Physiological Society in Edinburgh.

A MEETING of the Physiological Society was held in Edinburgh on June 2nd. The meeting place was the physiological department of the University and there was a large gathering of members from various parts of England and elsewhere. The members of the Edinburgh Pathological Club were asked to meet with them but the communications were practically confined to members of the Physiological Society. The meeting nominally began at 9.30 A.M. but the first hour and a half were devoted to social greetings and to the examination of a number of microscopic demonstrations illustrating the communications to be submitted formally to the meeting. The most interesting of these was a series illustrating tissue changes in rats fed on an exclusive flesh diet. This series showed the effect on the thyroid gland, on the kidneys, on the uterus, on the osseous system, on the skin, on the male reproductive organs, and on the structure and development of teeth. In the afternoon the meeting devoted itself to recreation at North Berwick. There was a golf match for those who wished to play over the popular links there, while a cruise to the Bass Rock and a land expedition to Tantallon Castle were provided for non-golfers. In the evening there was a dinner in the North British Station Hotel.

Treatment of Pauper Consumptives in Edinburgh.

An important report has been prepared and submitted to the Edinburgh parish council on the treatment of consumptive patients in the Craiglockhart and Craigleith poorhouses by Dr. E. Carmichael and Dr. R. S. Aitchison, the visiting medical officers to these institutions. As regards male patients, 167 passed through the wards, the period of residence varying from three days to 19 months. Only five were regarded as cured. They considered 90 per cent. of the cases as incurable. At least 34 returned for treatment, some as often as six times. As regards females, 92 patients passed through the wards, only two of these being considered as cured. In their report the medical officers indicate to their board that the open-air treatment should not be thought of as a cure but merely as a potent help in the treatment of tuberculous disease. From this standpoint the results are regarded as satisfactory. The length of time required to effect anything like a cure in the class of patients dealt with was very prolonged. Some of the male patients have been in the sanatorium for over a year and although they have put on weight the physical signs of disease in the lungs remain very marked. Some improve greatly at first and then go downhill. Occasionally these improve again if removed from the open air to the ward and one or two even by returning to work. In fact, to have these patients, especially the men, loafing all these months is bad for them and is sometimes a real hindrance to treatment. The point arises, Should those patients be detained, if they will stay, till they are regarded as cured, or should the aim be merely to get them well enough to work and then advise them to leave? Dr. Carmichael and Dr. Aitchison believe that it would be a benefit to the patients if they were advised to go when they were fit for work or if there were some intermediate place established between the hospital and the house where they might have light work. If they are allowed out to return to their small, badly-ventilated houses or lodgings they run a great risk of relapsing.

The Royal Society of Edinburgh.

This learned body has been much perturbed at the thought of being turned out of its present abode. An influential deputation waited upon the Secretary for Scotland when he was in Edinburgh on June 1st and laid before him their position. They were treated quite frankly and informed that there was no alternative, in view of other interests, but to take their present rooms from them. They were, however, assured that their annual grant from the Government was not to be disturbed; they were also assured that the Government considered it to be its duty to do all it could to help them to get suitable accommodation elsewhere. He suggested, however, that a scheme or schemes should be prepared by the Royal Society, perhaps in association with other societies, and submitted to the Government and to him.

The late Mr. Thomas Gilbert of the University of Edinburgh.

Many old students of the University of Edinburgh will learn with regret that this well-known figure has been removed from the official business life of the University. His face and figure were prominent in the University office where as clerk and registrar he was daily to be seen at his desk. His connexion with the University dates from 1867. To him fell the task of yearly compiling the University calendar and keeping it up to date. He was a loyal and devoted servant of the University and was much valued and esteemed by the Senatus. Outside University work he was a golfer, a bowler, and a violinist. His wife died nearly 30 years ago but he is survived by three sons.

An Interesting Medical Law Case.

In Alloa sheriff court last week an interesting small debt action was heard at the instance of Dr. S. Fergusson, Alloa, who sued the Alloa Glass Works Company for one guinea for a special visit which he paid at the works to attend to an injured workman. It was mentioned in the evidence that while examining and dressing the injured man Dr. Fergusson, who had been called to the accident by telephone, said to the gateman at the works, "Who is to pay for this? You know the Glass Works Company are a peculiar company." The company maintained that although its telephone was used to call the medical man, it was not responsible but that the injured man or his relatives were responsible. The sheriff, in giving decree for the sum sued for, said nobody would suppose that a workman would use the company's telephone for doing his private business. If there had been any mistaken idea on the part of the medical man as to who called him, it was owing to slackness on the part of the Glass Works Company allowing its telephone to be so used. The case excited a good deal of interest and nearly all the medical men of the town were present in court, for the position of the practitioner when summoned to attend a workman upon the premises of the employer is a difficult one and one concerning which constant disputes arise.

The late Dr. William Dougan.

By the death of Dr. William Dougan, which occurred on June 3rd, the medical profession in Glasgow has lost one of its best known and most respected members. Dr. Dougan was a native of South Ayrshire. He graduated M.B., C.M. in 1868 and M.D. in 1872 at the University of Glasgow and began his professional career in Argyllshire. He remained there for only a few years when he came to Springburn, then a rising suburb on the city boundary. In 1892, on the death of Sir George Macleod, he was appointed his successor as medical officer for the post-office, a post which he held with much acceptance until his death. In 1898 Dr. Dougan was elected a member of the town council and served for a term of three years. To the duties of the office he gave assiduous attention and was identified largely with the movement in the town council to provide open spaces and better sanitation in various parts of the city. Dr. Dougan was an enthusiastic golfer and the origin of his illness was due to a chill which he caught while playing last week. He is survived by his wife, two daughters, and two sons.

Western Infirmary, Glasgow.

In view of the opening of the new wards Dr. James H. Nicoll has been appointed one of the visiting surgeons to the infirmary.

June 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Commission on Trinity College.

THE long-expected announcement of the Royal Commission to inquire into the affairs of Trinity College has at last been made. The terms of reference of the Commission are as follows:—

> To inquire into and report upon the present state of Trinity College, Dublin, and of the University of Dublin, including the revenues of the College and of any of its officers, and their application; the method of government of the University and of the College; the system of instruction in the College, and the teachers by whom it is conducted; the system of University examinations, and the provision made for post-graduate study and the encouragement of research; and also to inquire and report upon the place which Trinity College, Dublin, and the University of Dublin now hold as organs of the higher education in Ireland, and the steps proper to be taken to increase their usefulness to the country.

It will be remembered that a Royal Commission was appointed in July, 1901, to consider the condition of higher education available in Ireland outside Trinity College, Dublin. The inquiry now to be made will thus be complementary to that undertaking in pursuance of the former commission, the commissioners now appointed not receiving further evidence on the matters already dealt with. The commission is constituted as follows:—Sir Edward Fry, late Lord Justice of Appeal (chairman); Chief Baron Christopher Palles; Sir T. Raleigh, K.C.S.I., D.C.L.; Sir A. W. Rücker, LL.D., F.R.S., principal of the University of London; H. Jackson, D. Litt., Regius professor of Greek in the University of Cambridge; S. H. Butcher, D. Litt., M.P., late professor of Greek in the University of Edinburgh; Douglas Hyde, LL.D.; D. J. Coffey, M.A., professor of physiology in the Catholic University School of Medicine; and S. B. Kelleher, Fellow of Trinity College, Dublin. The terms of reference appear to have given general satisfaction, though the religious tenets of some of the commissioners have, of course, been made the subject of comment. In the circumstances, the commission should be able to complete its work with expedition.

The Public Health Appointment in Belfast.

At the usual monthly meeting of the city corporation of Belfast held on June 1st, after the standing orders had been suspended, a number of deputations were introduced who wished to put before the corporation their views with regard to the appointment of a medical superintendent officer of health of Belfast. The first represented the Ulster Medical Society. The president, the secretary, and a deputation of 17 other members were in attendance. Dr. W. Calwell (President), who introduced the deputation, said they appeared in pursuance of certain resolutions passed on May 17th which have already appeared in THE LANCET. Professor J. A. Lindsay and Professor J. W. Byers then delivered effective speeches in favour of a progressive public health policy in Belfast, pointing out the absolute necessity of appointing a sanitarian of the highest equipment to fill the important post of medical officer of health to the city. Influential deputations also appeared from the Belfast Citizens' Association and from the Belfast trades council urging that the best possible man should be appointed to the vacant post. At a later stage of the proceedings of the council the chairman of the public health committee made a comical attack on the medical profession and on THE LANCET. He referred to the figures which have appeared in THE LANCET as "statistics which would not bear careful examination," forgetting that these figures have not been successfully controverted, and added that "never was the sanitation of Belfast in a better condition than at the present time." He said that the deputation of the Ulster Medical Society had given Belfast a bad name, "and having befouled their nest they came to the corporation and complained that the nest was foul"—concerning which impolite statement the *Northern Whig*, in a leading article reprobating the employment of abusive tactics, said: "It would be more accurate to speak of it as an attempt to clean out a nest that is at present discreditably foul." The statistics point to the latter view being correct. The Registrar-General reports that the annual rate of mortality in the 76 great towns of England and Wales averaged last week 14·2 per 1000. The rate in London was 12, in Edinburgh 17, in Glasgow 19, in Dublin 22, and in Belfast 22. The two last named were the highest in the kingdom, while the mortality-rate for the previous four weeks in Belfast was 23·3. Your readers will not be surprised to learn that it has occurred to some thoughtful citizens that the wisest course in the circumstances would be to ask for a special inquiry to be granted by the Irish Government to look into the whole question of the health of Belfast.

Irish Medical Association.

The annual meeting of the Belfast and District branch of the Irish Medical Association was held in the Medical Institute, Belfast, on June 4th. Resolutions were passed protesting against Section 6 of the Local Government Board Amendment Act and in favour of adding an Irish medical man to the members of the Poor-law Commission. Professor Byers was re-elected president for the ensuing year, Professor Lindsay and Dr. D. Gaussen vice presidents, and Dr. A. G. Robb secretary and treasurer. The following were appointed members of the council:—Belfast: Dr. J. C. Ferguson, Mr. H. D. Osborne, Mr. S. B Coates, and Dr. J. Martin. Country: Dr. A. Mussen (Glenavy), Mr. J. G.

fferson (Lisburn), Dr. W. R. Davison (Ballymena), Mr. . O. Manley (Whitehouse), and Mr. David Wilson Vhiteabbey).

fune 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Sanitary Organisations of Paris.

AT a meeting of the Academy of Medicine held on ay 22nd, M. A. J. Martin read a paper giving the results an inquiry which he had made into sanitary matters in e city of Paris from the year 1887 to the year 1905. The plication of the public health laws, the organisation for e transport of the sick, disinfecting operations, vaccina- on and revaccination, and the guarding of the water- pplies, together with hygienic measures undertaken at ivate expense have given very important results. Thus the neral death-rate, which in 1892 was 22·3 per 1000, has adually fallen to 17·4 per 1000 in 1905, a figure which is out the same as that in various large foreign towns where milar hygienic measures are in operation. Since 1892 e population has increased so that if the old rate of ortality had been maintained the total number of deaths r 1905 would have been 62,070 instead of 47,853 as it tually is, being a saving of 14,217 lives. In the diminu- on of the total number of deaths the decrease of those from fectious diseases is marked, for all the epidemic fevers rmerly so common have much decreased in frequency.

ntestinal Perforation with Suppurating Mesenteric Glands during Typhoid Fever.

At a meeting of the Surgical Society held on May 23rd . Toussaint read an account of the case of a patient ffering from typhoid fever, to whom he had been called account of perforation having occurred. In addition to e ordinary signs of perforation there were vesical tenesmus d dulness in both iliac fossæ. M. Toussaint performed a parotomy and found fluid in the peritoneum, together with perforation of the intestine which he sutured. He also moved several mesenteric glands. The patient died on e following day and at the post-mortem examination the ture of the perforation was found to be holding well. any other enlarged mesenteric glands were found and those hich had not ruptured contained a creamy white fluid. milar appearances have been found in other post-mortem aminations.

The University of Paris.

The Council of the University of Paris at a recent meeting ted for the upkeep in the Faculty of Letters of the chair the Science of Education; of the chair of the History of ivilisation and of Mediæval Institutions; and for the trans- rmation into a chair of the present courses of Auxiliary istorical Science. The council has also definitely approved the scheme for the extension of the University of Paris. his will include the construction of an Institute of hemistry covering an area of 9000 square metres. Here ill be established the various departments of chemistry elonging to the Faculty of Science and the Department of pplied Chemistry which, since its creation, has been pro- sionally installed in some sheds (*baraquements*). The cost this will be 3,000,000 francs which will be divided etween the city of Paris and the State. The extension heme also includes the acquisition by the University, in ew of future necessities, of a plot of land of 14,000 square etres which, together with the former plot, was purchased om a religious house. Towards the cost of this land the niversity will pay 1,900,000 francs and the city 700,000 ancs, to which will be added the donation from the Prince Monaco. On a portion of this area will be erected the stitute of Oceanography founded by the Prince of onaco of which I have already spoken. At the same tting of the council M. Proust, a *professeur agrégé*, was ominated to represent the University at the Congress of the ssociation of French Medical Men of North America.

The Treatment of Whooping-cough by Inhalation of Chloroform.

At a meeting of the Hospitals Medical Society held on ay 18th Dr. Henri de Rothschild gave an account of a se in which he had administered chloroform to a child for e reduction of a dislocation of the femur. The child had een suffering from whooping-cough for eight days and Dr. Rothschild noticed that the paroxysms of cough completely disappeared after the administration of the chloroform. The child was under observation for 15 days altogether and although previously to having been given chloroform she had had some 39 paroxysms of cough per diem they ceased entirely after the chloroform. The attacks of vomiting, the cyanosis, and the sleeplessness also disappeared. Dr. Rothschild then tried this method of treating whooping-cough in sundry other children. Out of nine cases of whooping-cough in which there was no doubt as to the diagnosis occurring in children of from two to seven years old, chloroform was used together with oxygen in the apparatus of Guglielminetti with the consent of the parents. In all the nine cases the whooping-cough was cured. Two of the cases had no paroxysms after the narcosis. In four of the cases the paroxysms fell within 24 hours from 39 to 12 per diem and disappeared completely on the fourth day, while in the last three cases the patients were quite well at the end of varying periods, the longest of which was 15 days. In none of the cases did the vomiting recur after the administration of the chloroform and even when the children did cough there was no cyanosis of the face, while both the appetite and the power of sleep greatly improved. The children were kept under chloroform for five minutes and anæsthesia was not pushed to completion but only so far as muscular relaxation, the corneal reflex not being abolished. Dr. Rothschild considers that the chloroform acts as an antispasmodic but does not believe that it has any bactericidal or antiseptic effect.

The Passage of Chloroform from the Mother to the Fœtus; the Presence of Chloroform in Milk.

At a meeting of the Obstetrical Society of Paris M. Nicloux read a paper upon these two questions. Availing himself of his method of giving definite doses of chloroform he made various observations both upon animals and upon women. He came to the conclusion that chloroform easily passed from the mother to the fœtus and noticed one curious point—that the liver of the fœtus contains more chloroform than the liver of the mother. This arises from the fact that the drug is chiefly fixed by fats and the fœtal liver, as is well known, contains much lecithin. M. Budin was of opinion that in obstetrical anæsthesia the chloroform must pass in very small quantities into the fœtal organism, for he had hardly ever observed any phenomena of chloroform intoxication in the child. M. Nicloux said that as regards the question of chloroform passing into the milk he had found that if a she-goat was chloroformed the drug rapidly passed into the milk. If anæsthesia was kept up it appeared that at the end of a certain time the milk contained more chloroform than the blood, from the anæsthetic accumulating in the fat of the milk. The practical point in connexion with this was to remember that chloroform was rapidly eliminated and that a child could be put to the breast with safety some hours after the mother had been chloroformed.

June 4th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

At the Vatican.

IN St. Peter's on May 27th the Pope's appearance as he presided at the beatification of the Carmelite Sisters who were done to death at Compiègne during the Terror in the July of 1794 left no one surprised at the subsequent announcement that immediately thereafter he had to take to bed. The weariness, the pallor, the emaciation, and the general malaise sufficed indeed to convince the least observant at what a sacrifice of personal comfort or even personal safety he was there at all. The truth is that this latest of his attacks of gout—attacks which seem to recur at progressively shorter intervals—was more serious than was suspected. On the night of May 18th the temperature was 39° C. and the restlessness so pronounced that next morning Dr. Lapponi had to intervene with more drastic treatment than he had seen occasion to practise at the first visit. The response was satisfactory and a copious diaphoresis was followed by cessation of suffering at the affected knee and by a fall of temperature to 37·4° C. On the 20th Dr. Lapponi was able to hold out some hope that His Holiness might descend to St. Peter's on the following Sunday to assist at the beatification above referred to—which, somewhat reluctantly, he was permitted to do. But there is no doubt that the Holy Father's insistence on the step has not been justified by the sequel, and he would have been better inspired had he confided less in his own judgment and more in his physician's. He has not yet been three years a "prisoner in the Vatican" and already his emaciation, his pallor, and his obvious lassitude have been but too apparent to his immediate *entourage*. Impressed with these symptoms his Secretary of State, Cardinal Merry del Val, and his "Maestro di Camera," Monsignor Bisleti, have taken upon themselves to reduce the number of his audiences. Not a few of the faithful indeed have had to leave Rome disappointed in their expectation of seeing him. The "imprisonment" (always, be it remembered, with doors locked on the inside) becomes more and more irksome—a "palace and a garden" on the least healthy of the hills of Rome being a poor substitute for his old Venetian residence fanned even in the dog days with breezes from the Rhætian Alps and the Adriatic. During all the last winter he has suffered more or less from bronchial catarrh and cough and a rather uncertain spring wrought little change in him for the better. At the function on May 13th his hoarseness was remarked and his weariness was such that, contrary to his habit, he had to be carried in the *sedia gestatoria* both in descending to the Basilica and on his return, while even in the palace itself he had to use the *portantina* (bath-chair) just as Leo XIII. had latterly to do. On May 17th, tired as he was and still suffering from coryza, he exerted himself to receive in audience a numerous delegation of Dominicans, headed by the general of the order, who had come with a view to assist at the beatification of the Spanish Dominicans martyred at Tonkin. It was this effort that preceded the attack of gout in the knee which, as already stated, brought Dr. Lapponi to his bedside on the Friday following. The outlook for His Holiness is not re-assuring and provokes speculation full of interest, diplomatic and other, as to whether he will so far take heart of grace as to effect a secret flight to Castel Gandolfo, the summer residence of the Popes on the Alban Hills, or even (for more than change of air) pay a visit *incognito* to one of the many thermal springs in which (private as well as public) Italy abounds. I may add that the Pope is not alone in the Curia as a sufferer from gout. The aged Cardinal Oreglia, dean of the Apostolic College, is similarly afflicted and is not expected to recover. Cardinal Crettoni, too, is confined to bed from the "diva podagra."

May 30th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Antivivisectionist Movement.

THE antivivisectionists, although not very influential in this country, take every opportunity of impressing the public mind, but certain members of the medical profession on these occasions never fail to reply effectively to their opponents. A meeting recently took place in which the subject was vigorously debated. Several hundred persons assembled at a lecture given by a Mr. Brand who spoke very deliberately on the "inhumanity and recklessness of the cruel medical torturers." The opponents of vaccination, who would in England be called "conscientious objectors," also at the same meeting aired their grievances, amidst not very encouraging interruptions. Here I may remark parenthetically that although vaccination is not exactly compulsory in Austria the practical effect is almost the same as if it was compulsory, because all positions in the public services and nearly all private appointments are given only to vaccinated persons. Professor Kassowitz, the well-known specialist on children's diseases and president of several medical societies, responded to all attacks and by his unanswerable arguments discomfited his opponents. Dr. Grün also spoke to a like effect. The audience was soon won over to the views of the medical men, so that a motion brought forward by Mr. Brand condemning the practice of experiments on living animals was rejected and a vote of sympathy with the propagators of scientific methods, proposed by the medical men, was carried amid great disturbance. Although the majority of the clerical Diet of Lower Austria is not very friendly towards the medical profession as a whole, and is averse to vaccination, the members of the Diet present did not feel themselves compelled to help their friends.

Cremation in Austria.

The question of cremating the dead has for some time been receiving much public attention. Until quite recently no means of carrying out this system have been provided in Austria but a company has now been formed with the object of establishing a crematorium. The nearest place where such an institution is in existence is Gotha, in Germany, but the cost of conveying a body there is so high that cremation has hitherto been available only for the well to do classes of the population. A Bill has been lately introduced in Parliament, seeking to make cremation optional and demonstrating its usefulness in military service. The Bill was, however, strongly opposed by the Government on moral (!) and religious grounds and was vehemently attacked by the clergy of all denominations although Dr. Jäger, who had introduced it, could prove from Holy Scripture that cremation was not only not forbidden but was practised by the Jews in ancient times and by the early Christians. Nevertheless the Bill did not pass. This is hardly to be wondered at because even in the Western countries, with their more enlightened populations, cremation of the dead is not very frequent. In spite of the trouble and expense more than 300 bodies were last year sent to Germany to be cremated, amongst them being, curiously enough, the body of a Protestant clergyman from Hungary. One of the reasons urged against cremation was that it destroyed all the evidence which might otherwise have been obtainable if suspicion subsequently arose as to the cause of death. This is, perhaps, the only valid argument brought forward against the Bill.

Two Cases of Remarkable Nervous Diseases.

Dr. Fuchs recently showed at a meeting of the Neurological Society two cases which were interesting on account of their rarity. The first patient was a man, aged 40 years, who suffered from chronic rhinitis and in whom during the last two years the act of mastication produced an attack of profuse sweating of the right cheek. The attack was only evoked by masticating solid food, the nature of the food being quite irrelevant. The pathology of such conditions was absolutely unknown and several experiments conducted with a view of ascertaining the rôle played therein by the sympathetic or trigeminus nerve respectively were futile. The well-known physiologists Landois and Claude Bernard were themselves victims of the same abnormality although not in such a high degree, only chocolate or some kinds of sour food causing in them facial hyperidrosis. It was also known that nervous children were wont to perspire on the face or on the forehead in certain unusual conditions. The second case was that of a youth, aged 17 years, who had for the last 12 months suffered from occasional fits of complete paralysis of all four extremities whilst retaining full control over his senses. There was no disturbance of his sensory organs but he was absolutely unable to make a movement with any one of his limbs for a period varying from half an hour to 80 minutes. Sometimes the paralysis was so complete as to necessitate his being handled like a dead body; sometimes it was not so complete. The movements of the head were not impaired and no urinary trouble was present. The reflexes during an attack were not changed but the electric reaction of muscles and nerves was considerably lessened. The whole complex of symptoms was typical of the so-called periodical paralysis of the extremities (Erb)—myoplegia periodica. There was no remedy known except hydropathic and electrical treatment and the pathology was also not well known, as happened in many nervous diseases more or less simulating functional disorders.

Radio-activity of the Sulphur Waters of Baden in Austria

The waters of the sulphur baths in Baden, a renowned health resort near Vienna, have been for a long time—in fact, for over four centuries—in constant use in rheumatic conditions and diseases attended with exudation deposits but their therapeutic value was not exactly understood. The temperature of the springs is rather low, being only from 36° to 37° C., and the chief dissolved constituents are sulphuretted hydrogen and sulphides. An examination of the water made by Dr. Heinrich has now supplied an explanation of its efficacy, for it has been found that both the water and the sulphur deposits on the walls of the springs contain very large quantities of radium and that the emanation is easily detected in the waters if they are heated. The quantity of radium has been compared with that found in other mineral springs and in this respect the Baden waters are said to be second only to those of Gastein. As the action of Gastein water was not explained until its erapeutic constituent was discovered in radium, so the old-tablished fame of Baden has now been accounted for by e same potent agent. Several curious photographic re-resentations of objects covered by Baden water and thus ade radio-active with a slowly diminishing photo-activity re now exhibited in the town hall.

Institution of a Nothnagel Lecture.

With the object of honouring the memory of the late rofessor Nothnagel some of his friends and followers have ade arrangements with the University authorities to in-itute a series of lectures on the therapeutics and pathology internal diseases, to be delivered on the anniversary of s death. This proposal is a novelty hitherto quite un-own in Austria. Professor Nothnagel's chair has been fered to Professor von Noorden who will most likely also liver the contemplated lecture and if so he will in this ay make his first public appearance as the new director of e clinic. In accordance with the favourite study of the eceased physician the lectures will deal with some subject hosen from the pathology of the alimentary or the nervous ystem. On both of these questions the newly appointed rofessor is an authority of wide reputation.

June 2nd.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Mecca Pilgrimage.

THE whole of the pilgrims quitted Mecca some weeks ago, he Egyptian and Syrian caravans being the last to leave. There is said to have been little, if any, disease of a virulent r epidemic type, thanks to the excellent sanitary arrangements of the Imperial Government; but there has been a high mortality among certain groups of the pilgrims, especially the 20,000 subjects of the Indian empire, 11,000 Javanese, and 4000 Algerians. The total number of deaths up to the present is stated by the delegate of the quarantine board to the Hedjas to amount to 4676. Dysentery has, fortunately, been far less prevalent this year.

A Centenarian.

During the taking of the census at Dikli-Djafer, a locality situated in the district of Sultan-Yéri, the age of a Mussulman farmer named Mehemmed Agha was given as 103 years. He is in full possession of all his physical powers and his teeth are good. He had two wives and his descendants amount at present to 79 persons, all living in the villages of the locality named. During the feasts of Bairam he walks on foot to the mosque of a village situated many miles away from his place of abode.

Short Weight in Bread.

In every district of the capital thousands of loaves are being confiscated on the ground of not having either the requisite weight of one kilogramme each or the usual colour. Tevfik Emin Bey, an energetic official of the municipality of Constantinople, personally supervises the inspection of the bakeries and deals severely with all cases of fraud.

The Treatment of Hydrophobia.

Several institutes for hydrophobic patients have been established in the vilayets of Salonica and Erzeroum. Similar measures will also be taken in the provinces situated far away from Constantinople, such as at Sanaa, the capital of Yemen in Arabia, at Bagdad, Damascus, Erzindjan, and Monastir. The necessary funds will be supplied chiefly by the local municipalities. This is being done in order to enable people bitten by rabid animals to be treated on the spot and thus to save time which is of such vital importance in these cases.

A New Jewish Hospital.

In Smyrna the erection of a new Jewish hospital has been commenced. All the necessary funds for the maintenance and equipment of this institution have been offered by Baron Rothschild.

The Prevention of Small-pox.

Energetic measures are being adopted by the *Conseil d'État* in order to prevent the propagation of small-pox in the Ottoman Empire. Instructions have been given that the new vaccination law is to be enforced strictly. The institute for vaccination in Constantinople will be extended and analogous establishments will afterwards be erected in the remoter provinces, such as Yemen, Tripoli in Africa, Bagdad, &c. A public vaccinator will be appointed for each "caza" or district. The financial section of the *Conseil d'État* is at present considering the question of finding the necessary funds for these purposes.

The Russian Hospital in Constantinople.

A new operating theatre and a lying-in ward have been recently provided at the Russian Hospital in Constantinople at a cost of 400 Turkish liras. The operating theatre has been equipped with all the latest requirements of modern medical science and new surgical instruments have been ordered in France. The lying-in ward is intended only for poor women who are Russian subjects and at present contains only three beds but there is a prospect of this number being increased.

The Water-supply of Constantinople.

A special commission has been appointed to consider the question of finding new supplies of drinking water for certain quarters of the metropolis and suburbs. It seems that the sources at Kiathanéh, Halkali, and Kirk-Tcheshméh, the first of which supplies excellent water, are not sufficient. The conduits, which are in many places very defective, will also be repaired.

May 28th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Lunatic Asylum.

Dr. J. Warnock's report on the Egyptian Government Hospital for the Insane for the years 1904 and 1905 has just been published. In the former year the number of inmates in the asylum was raised to 650 in order to check the compulsorily high rate of discharged uncured cases, and as a consequence of this increase in accommodation the number of cases discharged uncured was diminished to 180 in that year, though the number rose again to nearly 400 in 1905. Some overcrowding has resulted, with consequent inconvenience and disorder and an increase of the tuberculous cases from the impossibility of properly isolating them. All these drawbacks will be relieved this year, for the adjoining military hospital is changing its site and in consequence the asylum will eventually gain an increased area of about 75 acres of surrounding desert, including the existing buildings of the Egyptian Army Hospital. The whole asylum land will then be railed in to the obvious advantage of both staff and patients. When these reforms are completed the accommodation will be increased to about 812 beds, but as it is recognised that a second asylum will soon be urgently needed it has been decided to erect one shortly for 600 male patients in the desert 11 miles to the north of the existing asylum, not far from Abu Za'abel, a spot well known to those acquainted with the recent medical history of this country. It was here that Muhammed Ali had, 80 years ago, a camp of instruction for 25,000 soldiers of his army, and it was then that Clot Bey, an energetic Frenchman, obtained leave to establish near the camp a hospital and a medical school in order to provide surgeons and apothecaries for the army. The medical school (transferred later to Kasr-el-Ainy) was a great success, though for a long time Mussulman prejudice prevented the addition of a dissecting-room. The story is that Clot Bey began by dissecting a dog, "not even a Moslem's dog, but a Jew's dog or a Christian's dog," and later he got permission to make use of the corpses of Christians and black slaves, and was even allowed to bring bones from disused cemeteries to his lecture room which had to be surrounded by guards who were kept ignorant of what took place in the room which they were guarding. The second asylum, when it is built, will allow the re-admission to the present building of all criminal lunatics who now have to be kept in the prison hospital at Tura. In spite of the many reforms in the treatment of lunatics which I have been able to record since the appointment of Dr. Warnock to the asylum 11 years ago there is still room for various criticisms which he himself is the first to point out. For instance, no less than 18 attendants were detected and punished for ill-using patients during the year 1905. 70 patients had to be admitted without certificates because their friends were ignorant of the procedure necessary and the patients were obviously in need of hospital care. Several other cases without certificates were, however, refused admission because their condition was not urgent. Six patients entered the asylum of their own free will and several epileptics, neurasthenics, and lunatics in the early stages now attend gratuitously as out-patients. It appears that the certificates signed by European medical men are now less satisfactorily executed than those by Egyptian medical men. Another interesting point is that, on more than one occasion, "an Egyptian patient who had been declared incapable of managing his own affairs has petitioned that an administrator of British nationality be appointed in preference to one of his own race." Each discharged patient gained on the average 11 pounds in weight during his residence in the asylum which speaks well for the rations supplied and for the restful atmosphere of the place. More than one half of the admissions during the two years were from acute mania, chronic mania, and dementia, and pellagrous and hasheesh insanity. 61 patients suffering from general paralysis were admitted in the two years; 44 of them had signs or histories of previous syphilitic infection, while the other 17 patients had possibly suffered from this disease but no traces of it remained and no trustworthy histories could be obtained. The chief causes of death were general paralysis, pellagra, exhaustion from mania and melancholia, and tuberculosis. "Owing to the overcrowding of the asylum the amount of seclusion and of narcotics used remains deplorably large; mechanical restraint is still unused, except in surgical cases, and more rarely to prevent self-injury."

Cairo Water-supply.

The Khedive lately formally opened the installation of pumps which now supply Cairo with sterile water. For some two years past the work has been progressing and now 22 wells have been sunk some 200 yards from the Nile bank and 320 miles of main pipes have been laid down. The water obtained is clear, colourless, and odourless, with a pleasant taste and a temperature of 73° F. Chemically there is no great difference between this well water and that taken directly from the Nile but the new supply contains no micro-organisms and is practically sterile. During high Nile the well water is twice as hard as the river water but at low Nile, for instance during the present month, the degree of hardness is reduced to the proportion of 7 to 5. The increased hardness of the well water is due to the presence of a larger quantity of bicarbonate of lime and magnesia and not to an increase of sulphate of lime; the hardness is therefore removeable by boiling and the only complaints so far have been that the increased hardness is not agreeable to the delicate stomachs of some water-drinkers and, secondly, ladies complain that it causes their hair to fall out after washing. As compared with the water-supply of large towns in England, Germany, and France the water can be considered fairly soft. The new supply is, of course, nothing but Nile water, filtered naturally through the sub-soil but coming from the Nile from some point well above Cairo. It is considered impossible for this well water to be contaminated by any future infiltration of impure water and it is needless to say that Cairo is now to be congratulated upon having for the first time a pure supply of drinking-water which ought to tend to reduce the mortality from gastro-intestinal diseases and which will be an invaluable aid in the event of any future visitation of cholera. It may be instructive to remind readers what the old water-supply of the town was like a very few years ago. The pumping station was immediately below Kasr-el-Nil barracks and the water, instead of being taken from the middle of the river, was drawn only a short distance from the bank which was quite unprotected from pollution. Moreover, the pumping station was below the drains of cesspools which opened into the Nile from two large palaces and from every house on the right bank of the Nile which was large enough to boast of a drain at all. The filter beds in the desert to which the water was conveyed from the intake were of inadequate size and were unprotected in any way from the sand and dust of a neighbouring abandoned cemetery.

May 30th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Dyeing of Foods.

Professor Wiley, chief of the Bureau of Chemistry of the Agricultural Department, Washington, has published the results of recent investigations by Dr. W. D. Bigelow of the Division of Foods, and Mr. Burton J. Howard of the Micro-Chemical Laboratory, as to the adulteration of foods. As far as their application to the preparation of foods is concerned, coal-tar colours have been found to be much more satisfactory from a technical standpoint than the pure vegetable colours. They are readily soluble, are cheap in consideration of the amount employed, and withstand the action of light and time much better than the ordinary vegetable colours available for colouring food. In the preparation of tomato catsup the natural colouring of the tomato is largely destroyed and the addition of a little colouring matter therefore has been resorted to for the purpose of imitating the natural colour. But the addition of colour is often abused and the result is the appearance of a tomato catsup in the markets of a deep red colour, much more vivid than could possibly be obtained without the use of artificial colours. Some manufacturers employ copper compounds for the purpose of imparting a greenish tint to cucumber pickles and the amount of colouring matter used is often so great as to give a vivid green never seen in the original vegetable. The same remark applies to butter and meats. Canned vegetables were found to be adulterated with preservatives, copper, and sulphites, seven in nine samples examined were so adulterated, mushrooms, peas, and tomatoes were all adulterated by the use of sulphites, copper, and borax. There is some adulteration of cereal products; coal-tar dyes and other colours were found in three of ten samples of vermicelli; turmeric and foreign colours were found in 24 out of 28 samples of "noodles"; cocoa and chocolate were found very generally adulterated; foreign substances, all of them deleterious to health, such as certain coal-tar dyes, were in catsup, chilli sauce, and pickles.

Physicians and the San Francisco Disaster.

Dr. Mackenzie, Vice-President of the Medical Association, writes: "About 500 physicians of San Francisco are destitute; diplomas destroyed; brave, resolute, working like Trojans for fellow men; American Medical Association should come to relief; many will emigrate." The Association immediately took steps to open a relief fund with a central office at Chicago and the subscriptions have been large. I gather from the latest information that few physicians escaped the loss of everything, while several lost their lives.

Measures for Preventing the Blindness of Children.

Dr. Park Lewis, President of the committee for improving the condition of the blind, states that from carefully tabulated statistics it appears that in the State of New York alone there are more than 6000 blind persons and in the United States there are more than 50,000 suffering from blindness. The conclusions of the committee are that four-tenths of all existing blindness might have been avoided had proper preventive measures or curative remedies been suitably employed. One-tenth of the cases were due to ophthalmia neonatorum, an infectious, preventable, and almost absolutely curable disease. The preventive measure which the committee recommends is the instillation of a silver salt in the eyes of the newly born infant. The scheme of rendering this treatment effective is, first, to require ophthalmia neonatorum to be placed by health authorities among contagious diseases which must be reported to local boards of health; and secondly, to make the failure to report cases a misdemeanour. It is advised that a standard preparation of the silver salt should be made and all institutions where maternity cases occur should be required to use it. In private practice reliance must be placed on the reporting of cases and the detection of the disease. Several States have found such laws efficient in the prevention of blindness in the newly born.

May 19th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Danger in connexion with the Water-supply of Calcutta.

EVERY city in India seems to have periodical difficulties connected with its water supply. Bombay, Madras, Rangoon, and Calcutta have each had trouble and dangers within the past few years and in the last-named city there has just been discovered a very serious risk of contamination not only for one part but for the whole system of supply. It is said that there has been a larger number of cases of typhoid fever of late in Calcutta than usual but no official announcement has been made. The recent mistake by the corporation employee which led to unfiltered water being supplied to a house in place of pure water for domestic purposes caused inquiries as to whether the town supply was liable to get mixed with the unfiltered water. The engineers are satisfied that nothing is to be feared in this direction. A serious menace, however, to the inhabitants supplied from the Wellington-square reservoir has been discovered and from this source the European quarter is supplied. This reservoir is underground, is 20 years old, and is only a masonry tank. It is consequently liable to cracks and leaks. It appears that the overflow from the reservoir is connected with the city sewer which runs under the road alongside. This overflow is untrapped and thus permits of sewer gas escaping into the reservoir. Worse still, the levels of the sewer and the reservoir are such that during heavy rain the contents of the sewer rise to within a few inches of the road surface and there is nothing to prevent the diluted sewage from flowing back into the reservoir. This may have happened again and again. During the rains it is not only possible for the level of the contents in the sewer to rise to the surface but to overflow through the gullies on to the surface. As a matter of fact, in many parts of the town this frequently happens. The three reservoirs in the city are of similar construction and the danger is therefore a most serious one. To increase the evil still further the corporation has permitted the construction of a urinal in the very corner of the square within a few feet of the reservoir, and there is also a bathing-place for Mahomedans before prayer almost on top of the covered reservoir.

The Grievances of Lahore Students.

Medical students in India are not backward in expressing their grievances. I have had to record from time to time various unpleasant disturbances but the Lahore students seem to have brought forward their complaints in a proper way. A long petition was presented recently to the Inspector-General of Civil Hospitals in which they complain of receiving discourteous treatment and being subjected to abuse from certain native teachers in the college and assistants in the hospital. They plead for direct communication with the principal instead of through the superintendent and they complain of being overburdened with duties some of which should rightly be performed by the nurses and others by the menials. They further ask for English lectures instead of vernacular ones and state that the books supplied are obsolete and worthless. Finally, they point out that they memorialised the principal a year ago but that no attention has been paid to their grievances. If these grievances be real there is no doubt that the Lahore students suffer from many disadvantages, and especially those students who after study in Lahore proceed to other centres for examination.

The Incidence of Pulmonary Tuberculosis in Calcutta.

An elaborate statistical report on the incidence of pulmonary tuberculosis in Calcutta as shown by the mortality from this disease in 1905 has recently been published by Dr. T. F. Pearse, the special health officer of Calcutta. It appears that for the whole city the death-rate from pulmonary tuberculosis is 1·9 per 1000 but that among the female population it is 2·86 per 1000. The detailed figures show that among Mahomedan females the rate is no less than 4·6 per 1000. Comparisons are made with other places—Bombay, with a rate of 3·6; the jails of India, with a rate of 2·9; and the Burghers in Ceylon, with a rate of 2·3. The incidence of the disease in the several parts of the city is shown and its greater prevalence amongst those living in huts is particularly referred to. The author, apparently by virtue of his official position, has limited his remarks to the prevalence of the disease and makes no suggestions. He contents himself in stating that the great lesson to be learnt from these statistics is that in nearly all parts of the city the conditions of female life strongly predispose to the disease. Those conditions are to a certain extent known and may be summed up generally as "deficiency of fresh air." Imperfect statistics in other places in India and the Orient have made it impossible to institute satisfactory comparisons and the report may after all only express half the truth with regard to the disease in Calcutta.

Plague in India.

The plague mortality throughout India shows a slight improvement—13,295 deaths being recorded for the past week, as against 15,633 for the previous seven days. The severe outburst in Bombay has declined and only 862 deaths from plague were reported for last week. The intense development which occurred in Mandalay has also subsided. There were reported for March no less than 9696 cases, but for April only 332 cases. In Rangoon 344 cases occurred in March and 297 in April. In Moulmein the disease is spreading.

May 9th.

Obituary.

HUGH McLEAN, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

Dr. Hugh McLean died on April 27th at his residence, Main-street, Corbridge-on-Tyne. He had just reached the age of 65 years and had been a well-known medical practitioner in the Corbridge district for the past 44 years, having gone to the village from Newburn where he acted as assistant to the late Dr. Davison. He studied in the medical school at Newcastle-on-Tyne and became qualified in 1862, when he took the degree of M.D. at the University of St. Andrews as well as the diplomas of M.R.C.S. Eng. and L.S.A. Dr. McLean was much respected by those who saw under a rather brusque exterior sterling worth and infinite kindness. As well as being a trusted medical adviser he was one of the old school whom his patients consulted in any of the difficulties arising in the affairs of life. He took a practical interest in matters affecting the social well-being of the village and a few years ago was president of the news room and library but he never took any considerable interest in politics. Up to the time of his death he acted as medical officer and public vaccinator of the eighth district of the Hexham Union. He leaves a family of two sons and one daughter. On April 30th he was laid to rest by the side of his wife who predeceased him by some 25 years.

Medical News.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates satisfied the examiners:—

M.B., B.S. EXAMINATION.

Honours.—*§George Cockcroft (University medal), Guy's Hospital; ‡Archibald Thomas William Forrester and ‡‖ Paul Leon Giuseppi, St. Bartholomew's Hospital; * Montague Leonard Hine, Middlesex Hospital; §Thomas Bramley Layton, Guy's Hospital; §George Percival Mills, University of Birmingham; †§‖ Charles Max Page, St. Thomas's Hospital; ‡John Heatly Spencer, Charing Cross Hospital; †Violet Ackroyd Turkhud, London (Royal Free Hospital) School of Medicine for Women; *H. François Vandermin, Guy's Hospital; *Rawdon Augustus Veale, University of Leeds; †‡John Alexander Watt, University College; and *§Arthur Stanley Woodwark, St. Bartholomew's Hospital.

* Distinguished in Medicine. † Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Arnold Alcock, Guy's Hospital and Victoria University; Frank Alcock, Guy's Hospital; Harry Reginald Allingham, King's College; Arthur Beeley, University of Leeds; Richard John Bentley, Guy's Hospital; James Francis Blackett, University College, Bristol; Margaret Lucy Augusta Bolleau, London (Royal Free Hospital) School of Medicine for Women; Alexander O. Bryson, Westminster Hospital; Wilfrid E. Burrows, B.Sc., Middlesex Hospital; Thomas Charles Clare, University of Birmingham; George Percival Charles Claridge, St. Mary's Hospital; Colin Clarke, St. Bartholomew's Hospital; Leonard Colebrook, St. Mary's Hospital; Josephine Coupland, London (Royal Free Hospital) School of Medicine for Women; Reginald John Hands Cox, St. Thomas's Hospital; Edwin Thomas H. Davies, St. Mary's Hospital; George De la Cour, University College; K. R. Drinkwater, B.Sc., London (Royal Free Hospital) School of Medicine for Women; James Ernest Dunbar, London Hospital; Edward Vincent Dunkley, St. Thomas's Hospital; Hugh Roker Evans, University College; Cavendish Fletcher, Westminster Hospital; Peter Gifford Foulkes, Middlesex Hospital; Thomas Mellor Hardy, University of Sheffield; William Charles Frederick Harland, St. Bartholomew's Hospital; Pantland Hick, University of Liverpool; Frederick William Higgs, St. George's Hospital; Bernard Higham, St. Thomas's Hospital; Edith Blake Hollway, London (Royal Free Hospital) School of Medicine for Women; Richard Holtby, St. Bartholomew's Hospital; Walter Leopold Holyoak, St. Mary's Hospital; Annie Wainwright Hyatt, London (Royal Free Hospital) School of Medicine for Women; Percy Cecil Parker Ingram, Guy's Hospital; George Francis Jones, University College; Andrew Monro Jukes, St. Bartholomew's Hospital; Cecil Lionel Lakin, Charing Cross Hospital; George Bartley-

McKean and James Ernest Martin, University College, Robert Vernon G. Monckton, St. Bartholomew's Hospital; Helen Irene Moss, London (Royal Free Hospital) School of Medicine for Women; Alfred H. Parkinson, B.Sc., University of Leeds; Theodore Charles Pocock, Guy's Hospital; Percy John Probyn, Royal Army Medical College and Charing Cross Hospital; Hamilton Ernest Quick, B.Sc., and Max Balzar Reichwald, St. Bartholomew's Hospital; Philip Meredith Roberts, University College, Lilian Trousdale Rowland, Sophia Seekings, and Nora Frances Smith, London (Royal Free Hospital) School of Medicine for Women; Charles Algernon Stidston, St. Bartholomew's Hospital; B. Tchaykovsky, B Sc., London (Royal Free Hospital) School of Medicine for Women; Thomas Turner, Guy's Hospital; Howard Francis Warner, London Hospital; John Benjamin Valentine Watts, University College, Bristol; Arthur George Wells, University College; Harold B. Whitehouse, St. Thomas's Hospital, and Lilian Ethel Wilson, London (Royal Free Hospital) School of Medicine for Women.

The following candidates have passed in one of the two groups of subjects :—

Group I.—Kenneth Mayoh Gibbins, St. Mary's Hospital, Dorothea Clara Maude, London (Royal Free Hospital) School of Medicine for Women; William Edward Ruttledge, University College; Harold Brooke Scargill, University of Leeds; Francis William Schofield, Victoria University, Edward Bertram Smith, St Bartholomew's Hospital; George Wray Sudlow, University College and Victoria University; and Joseph Unsworth, the University and Royal Infirmary, Liverpool.

Group II.—John Stanley Avery, University College, Bristol, and St. Bartholomew's Hospital; Alfred Ball, University College; Alec Barber, St. Bartholomew's Hospital; Ella Beales, London (Royal Free Hospital) School of Medicine for Women; Colin James Galbraith, King's College; Elliott Thornton Glenny, St. Bartholomew's Hospital; Robert Francis Hebbert, St. Thomas's Hospital; George Montague W. Hodges, University College, Frank Percival Hughes, Guy's Hospital; Edith Anne Jones, London (Royal Free Hospital) School of Medicine for Women; Henry Travers Jones, University College; Sidney Herbert James Kilroe, Victoria University; James Jenkins Paterson, B Sc., and Henry Thomas Samuel, St. Bartholomew's Hospital and University College, Cardiff; William Octavius Sankey, St. Thomas's Hospital, James Ernest Sutcliffe Smith, Victoria University, Grace Maud Stagg, London (Royal Free Hospital) School of Medicine for Women, Alfred George Sworn, University College, Edith Eleanor Tucker, London (Royal Free Hospital) School of Medicine for Women; Stuart William Jackson Twigg, University College, Stanley Upton, St. Bartholomew's Hospital, Fred Newton Walsh, the University and Queen's Hospital, Birmingham, and Ruth Helen Western, London (Royal Free Hospital) School of Medicine for Women.

B.S. EXAMINATION.

Honours.—John Gay French, St. Mary's Hospital, Reginald Affleck Greeves, Guy's Hospital; and Harold Edward Ridewood, M.D. (University Medal), London Hospital.

Pass—John James, King's College; Charles Ernest Wheatley Lyth, University of Sheffield, James Alexander Milne, London Hospital; Charles Michael Roberts, St. Thomas's Hospital, and Gerald Warren Russell, Guy's Hospital.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

CHARING CROSS HOSPITAL FESTIVAL DINNER.—The Hotel Cecil was the scene of the festival dinner of Charing Cross Hospital on May 23rd when Mr. Whitelaw Reid, the United States Ambassador, presided. The loyal toasts were followed by that of "Prosperity to the Hospital," proposed by the chairman who said that one of the striking features of London life was that all classes of the community were working with benevolent effort on behalf of hospitals. It had, however, been stated that not more than 1 in 10 among well-to-do householders contributed to these noble institutions. Surely one-tenth of the community ought not to support a burden that belonged equally as much to the other nine-tenths. Referring to the work of the hospitals, he said that during the year 2465 in-patients were treated at the institution, the number exceeding that of any previous year. Of the 20,552 out patients treated at the hospital no fewer than 10,385 were cases of accident and emergency. Since the last festival dinner the projected alterations and improvements to meet the increasing demands upon the hospital had been completed with the exception of a small portion of the nurses' quarters which could not be entered upon until the present liabilities were cleared off. Until that time 44 beds in the north wing must remain closed. To provide funds to carry out the scheme of improvements the freehold of the hospital had been mortgaged for £85,000 and the additional sum of £15,000 was now due on account of building and furnishing. The cost of maintaining the hospital and the convalescent home was £20,000 a year and, in addition, £4875 were required to meet the annual interest on the mortgage and the sinking fund, making a total of £25,000. Of this sum £22,000 had to be raised from benevolent sources. Lord Kilmorey responded to the toast. During the evening it was announced that the total amount contributed in connexion with the dinner was £4450, raising the emergency fund to a little more than £12,200.

KING'S COLLEGE HOSPITAL FESTIVAL DINNER.—On May 28th, at the Hotel Cecil, Lord Milner presided over the annual festival dinner of King's College Hospital and referring to the new buildings of the hospital which are being erected in the south of London, in aid of the funds of which an Elizabethan fair was recently held in Lincoln's Inn Hall and grounds, he said that this vast enterprise could only be brought to a complete and successful conclusion by the continued sympathy and generosity of the public. While the present hospital cost some £60,000, the new hospital was estimated to cost £300,000, and while the present building occupied about an acre the new institution would occupy 12 acres. The present hospital provided 244 beds, the new institution was intended to provide 600 beds. The assured income of the hospital from investment was about £4300, while its normal expenditure was £21,000. The difference had to be made up by subscriptions and donations and a large proportion of those subscriptions and donations were made in connexion with the annual dinner. Although he had no connexion with the hospital directly, he had been a student of King's College and it would be a satisfaction to him if he could be of any assistance to the hospital of which all old King's College men felt proud. The toast was responded to by Lord Methuen. During the evening subscriptions and donations amounting to £3382 were announced. Of this sum £1062 will be credited to the removal fund.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held on May 24th at 6, Suffolk street, Pall Mall, Dr. F. H. Champneys being in the chair. A letter was read from the Privy Council inclosing a copy of a resolution passed by the board of the National Maternity Hospital, Dublin, in favour of examinations being held by the Central Midwives Board in Dublin. A letter from the Secretary of the Rotunda Hospital, Dublin, was also read to the same effect. A further letter from the Privy Council, dated May 23rd, was read inclosing copy of a memorandum given to the Lord President of the Council during a recent visit to Dublin. In the course of the discussion on this subject the Board was reminded that on April 10th, 1906, a resolution was passed that the Board was not prepared to hold examinations outside the area of the Act. The Board decided that the question should be referred to the standing committee for consideration and report and the secretary of the Board was instructed to reply to the clerk of the Privy Council stating that the Central Midwives Board would attend to the matter to the best of its power and let him know in due time. A communication from Dr. F. E Fremantle, medical officer of health of Hertfordshire, raised the point whether a certified midwife who is acting under a qualified medical practitioner is bound to keep a register. The Board decided that a certified midwife when acting as a monthly nurse need not keep a register. The following words were subsequently added to this ruling: "In cases of doubt reference should be made to the medical practitioner in charge of the case." It was reported that the Board after June 24th, 1906, will move its offices to Caxton House, Westminster. The penal cases committee reported that it had considered a letter from Dr. J. Niven, medical officer of health of Manchester, reporting the finding by the local supervising authority of a *primâ-facie* case of negligence against Ada Fisher, a certified midwife, together with her defence and the report of the solicitor thereon. The Board adopted the recommendation of the committee that the midwife should be warned to be more careful in the future as to antiseptic washing before examination of patients. The penal cases committee also reported that it had considered a letter from the clerk of the London County Council, reporting Mary Cecilia Lillie, certified midwife, and Ada Mary Roodhouse, certified midwife, as guilty of persistent disobedience to Rule E 19 (*b*) and as having announced their intention of not complying with the rule, together with their defence to the charges. The Board adopted the recommendation of the committee that the two midwives concerned should be cautioned as to the necessity of strict compliance with the rules and warned that any future report for disobedience from the local supervising authority would probably entail serious consequences. Further, the local supervising authority was to be asked to report in three months' time.

'HE COUNCIL FOR THE PROMOTION OF THE HER TRAINING OF MIDWIVES.—The annual meeting of subscribers to, and friends of this association will be held Wednesday next, June 13th, at 3 15 P.M., at 32, St. ies's-square (London House). H.R.H. Princess Christian occupy the chair and Dr. C. J. Cullingworth, Miss Alice gory, and Mr. W. Crooks, M.P., are announced to speak.

IONOUR TO PROFESSOR TIZZONI.—The Medical ulty of Bologna has just presented Professor Tizzoni with old medal on his completing his twenty-fifth year as cher in the school. His students also presented him with illuminated parchment setting forth his services in the atment of tetanus and in the application of radium to lrophobia in the human subject.

MEDICAL MAGISTRATE.—The name of Mr. F. H. rison, M.D., C.M. Edin., D.P.H. R.C.S. Irel., has been ied to the commission of the peace for the borough of est Hartlepool.

UNIVERSITY OF CAMBRIDGE.—The Rev. E. S. berts, master of Gonville and Caius College, has been cted Vice-Chancellor for the next academical year.—Mr. onard Moon, B.C., Trinity, has been elected to the John icas Walker Studentship in Pathology.—The Duke of vonshire, Chancellor of the University, has contributed 00 to the fund now being raised for the University rary.—Professor J. B. Bradbury, Professor W. Osler, Dr. West, and Dr. J. Rose Bradford have been appointed aminers in medicine; Dr. W. Rivers Pollock and Dr. H. R. encer, examiners in midwifery; and Mr. T. H. Kellock, r. H. G. Barling, Mr. Stanley Boyd, and Mr. L. A. Dunn, aminers in surgery for the Third M.B. Examination.

LITERARY INTELLIGENCE.—Messrs. J. and A. hurchill are about to publish "Preservatives in Food and ood Examination" by Dr. John C. Thresh, lecturer on ublic health at the London Hospital Medical College and edical officer of health of Essex, and Dr. Arthur E. Porter, ssistant medical officer of health and chief sanitary inspector f the city of Leeds. In this work of 500 pages a critical xamination is made of the various preservatives used in everages and foods, while the question of unsound food is ully discussed. The authors maintain that "during recent ears it has become notorious that serious and widespread pidemics of illness are attributable to the use of food which ias become infected with organisms capable of producing lisease." The text is elucidated by well executed plates.

ASYLUM WORKERS' ASSOCIATION.—This association, which has for ten years past been working to improve he status of those engaged in nursing the insane, held its annual meeting on June 1st at 11, Chandos-street, London, W. The large room of the Medical Society of London was well filled. The chair was occupied by Sir James Crichton-Browne in lieu of the President, Sir John Batty Tuke, M.P., who had been unexpectedly called away. The report having been presented by the honorary secretary, Dr. G. E. Shuttleworth, its adoption was moved by the chairman who said that it contained a record of excellent work in promoting the interests of the association, which he should like to see comprising a larger number than its present roll of 3227 of those engaged in the asylum service. Having referred to the successful efforts made for including mental nurses in any scheme of State registration and for obtaining pledges of support for asylum pensions from Parliamentary candidates, he said that for the small subscription required for membership was included a monthly copy of the Asylum News which was admirably conducted and sometimes contained original contributions of much value from asylum nurses and attendants. The adoption of the report was seconded by Dr. T. B. Hyslop, who spoke of the admirable qualities required and often found in the nursing service of asylums, and was supported by Mr. G. J. Cooper, M.P., and Mr. Will Crooks, M.P., both of whom gave from their experience as asylum managers in connexion with the London County Council instances of devotion and self-sacrifice on the part of asylum nurses and attendants which deserved the highest commendation. Indeed, Mr. Crooks said that he had seen evidence of Christian endurance and pluck in an asylum emergency which would worthily entitle to the Victoria Cross were it a deed of valour by a soldier. Two gold and two silver medals having been presented to two male and two female asylum nurses for long and meritorious service, the President, the executive committee, and the officers were re-elected and a cordial vote of thanks to the chairman terminated the proceedings.

MEDICAL GOLF TOURNAMENT.—The medical golf tournament for 1906 took place on May 31st on the course of the Incorporated West Herts Golf Club in Cassiobury Park, Watford. The competition was 18 holes match play v. Bogey under handicap, and the competitors, who numbered 104, were divided into two classes—those with handicaps of 12 and under and those with handicaps over 12. A first prize and a second prize were given in both classes and a prize for the best last nine holes v. Bogey. A foursome sweepstake was played in the afternoon. The course was in splendid condition and the comfort of the visitors was well looked after by the secretary of the West Herts Golf Club, Mr. Howard Williams. The day turned out fine and the beautiful park was seen to its best advantage, though the proximity of the trees to the fair-way of the course proved disastrous to some of the less experienced players. In Class I. the winner was Mr. A. W. Soper who with 6 strokes was 3 up on Bogey. Mr. G. C. Bell with 5 strokes was second with 2 up on Bogey. The prize given for the best last 9 holes was gained by Mr. Bruce Hamilton who was 3 up on Bogey. In Class II. the winner was Mr. J. A. West who with 18 strokes was 10 up on Bogey. The second place was awarded to Dr. J. H. Drysdale who with 14 strokes was 3 up on Bogey. The prize for the best last 9 holes was taken by Mr. G. W. Dawson who with 14 strokes was 3 up on Bogey. Mr. Dawson was also second in Class II. with 6 up on Bogey but elected to take the prize for the best last 9 holes. The foursome sweepstake was won by Dr. G. A. Sutherland and Mr. Bruce Hamilton who were 2 up on bogey. For the second place Dr. Percy Kidd and Mr. Rolf Creasy tied with Mr. H. A Seagrove and Dr. J. Meehan, their score being all square with Bogey.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, MAY 30TH.

Poor-law Matters in Ireland.

Captain CRAIG asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would consider the advisability of adding to the Commission about to inquire into Poor-law matters in Ireland a member of the medical profession who was in thorough touch and sympathy with the Irish Poor-law medical profession, with a view to bringing before the Commission the grievances and disabilities under which the profession laboured at the present time.—Mr. BRYCE, in reply, said: My right honourable friend the Prime Minister has already stated that it is not intended to appoint to the Royal Commission on the Poor-law a member representative of the Irish medical profession. On this subject I may refer to the reply which I gave to the question of the honourable Member for North Fermanagh on April 30th.

Sleeping Sickness.

Sir CLEMENT HILL asked the Under Secretary of State for the Colonies whether he would lay on the table papers and maps showing the results up to the present time of the investigations which had been made under the auspices or with the assistance of His Majesty's Government into the sleeping sickness in the Uganda Protectorate; and whether he would state what administrative steps were being taken to prevent the spread of the disease.—Mr. CHURCHILL in his reply said: A series of reports by the Sleeping Sickness Commission working under the direction of the Royal Society and subsidised by the Government has been issued, partly by the Royal Society and partly by the Stationery Office. No administrative measures of any importance have yet been taken to check the spread of the disease because no practical solution has yet presented itself. The subject is receiving the most earnest attention.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASHTON, GEORGE, M.D. Manch., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer for Home Patients to the Manchester Royal Infirmary.

BULLEY, F. M., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

CASSIDY, M. A., M.B., B.C. Cantab., has been appointed Resident House Physician at St. Thomas's Hospital.

CUNNINGHAM, N. R., M.R.C S., L.R.C.P. Lond., has been appointed House Physician to Out-Patients at St. Thomas's Hospital.

DELMEGE, LOUIS EDWARD, L R.C P. Edin., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Shire of Huntley, Victoria, Australia.

DICKSON, A. N., M.R.C S., L.R C.P. Lond., has been appointed House Physician to Out-Patients at St. Thomas's Hospital.

DREW, J. H., M B , B S. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

EDWARDS, FRANK PAYNE, M.B. Cantab., has been appointed Medical Officer of Health for the Shire of Dimboola, Victoria, Australia.

FALK, H., M.B., B C Cantab., has been appointed Resident House Surgeon at St. Thomas's Hospital.

GRAY, H. T., B.A., B C. Cantab., has been appointed Resident House Surgeon at St. Thomas's Hospital.

HOBSON, H. OVERTON, M.D. Edin., has been appointed Examiner in Medicine at the Cairo Medical School.

HOOKER, A. W., M.B , B.S. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

JEWESBURY, R. C , M.B., B.Ch. Oxon., has been appointed Resident House Physician at St. Thomas's Hospital.

LANDER, CHARLES LLEWELLYN, M.B., B S , B Sc. Lond , has been appointed Assistant Surgeon to the Royal Albert Hospital, Devonport.

LA TOUCHE, EDMUND DIGGES, L.R.C.S. Irel., has been appointed Medical Officer of Health for the Shire of Howqua, Victoria, Australia.

MAY, W. PAGE, M.D. Lond., F.R.C.P. Lond., has been appointed Lecturer on the Physiology of the Nervous System at University College, London

McDONALD, J., M.B., M S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Barking District of the county of Essex.

McENIRY, JAMES JOSEPH, L.R.C.P. & S Edin., L.F P.S. Glasg., has been appointed Medical Officer of Health for the Shire of Kerang, Victoria, Australia.

McLEAN, JOHN SAMUEL, L.R.C P. & S. Edin., L.F.P S. Glasg., has been appointed Medical Officer of Health for the Shire of Morwell, Victoria, Australia.

NAYLOR, RUPERT GEORGE, L.R.C.P. Edin., F.R.C.S Edin., has been appointed Medical Officer of Health for the Shires of Bulla and Melton, Victoria, Australia.

NORBURY, L. E C., M.B., B.S. Lond., has been appointed Junior Casualty Officer at St. Thomas's Hospital.

PARSONS, J. H , M.B , B S. Lond., F.R.C.S. Eng., has been re appointed Lecturer in Physiological Optics at University College, London.

PORTER, A. E., M.D., D P.H. Camb , has been appointed Medical Officer of Health of the Borough and Rural District of Reigate.

SANKEY, W. O., M.R.C S , L.R.C P. Lond., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

SCOTT, ERIC NORHAM, L.R.C.P. & S. Edin., L.F.P.S. Glasg , has been appointed Medical Officer of Health for Arawata, Korumburra, and Jumbunna Ridings, Victoria, Australia.

SINGTON, H. S , M.R.C S , L.R.C.P. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

SQUIRES, H. C , M.B , B Ch. Oxon., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

WRIGHT, F. R. E., M B. Lond., has been appointed Senior Casualty Officer at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board, washing, &c.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, fire, and gas.

BRIGHTON THROAT AND EAR HOSPITAL, Church street, Queen's road.—Non resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BROMSGROVE, WORCESTERSHIRE, BARNSLEY HALL ASYLUM.—Medical Superintendent. Salary £600 per annum and unfurnished house, with fuel, light, washing, and garden produce.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board and lodgings.

EGYPTIAN GOVERNMENT, MINISTRY OF EDUCATION —Professor of Midwifery and Gynæcology. Salary £400 a year. Also Medical Tutor and Registrar to Kasr-el-Ainy Hospital. Salary £400 a year.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S E.—Assistant House Surgeon. Salary £70, with board, residence, and washing. Also Radiographer Salary £50 per annum. Also Clinical Assistants.

GORDON HOSPITAL FOR FISTULA, &c., Vauxhall Bridge-road, S.W.—Honorary Anaesthetist.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, lodging, and washing

HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, washing, and attendance.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Honorary Assistant Surgeon.

INDIAN MEDICAL SERVICE.—Examination for not less than Twenty Commissions.

ITALIAN HOSPITAL, Queen square, London, W.C.—House Surgeon for six months, renewable Salary £60 per annum, with board and residence.

LEEDS, CITY OF, SANITARY COMMITTEE.—Assistant Medical Officer of Health and Chief Inspector of Nuisances Salary £300 per annum.

LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Pathologist and Assistant to the Medical Staff. Salary £150 per annum.

LIVERPOOL STANLEY HOSPITAL.—Assistant Honorary Ophthalmic Surgeon.

LIVERPOOL WORKHOUSE AND HOSPITAL, Rice-lane, Walton.—Assistant Resident Medical Officer, unmarried. Salary £125 per annum, with board.

LONDON HOSPITAL, Whitechapel, E.—Medical Registrarship.

MIDDLESBROUGH, COUNTY BOROUGH ASYLUM.—Locum Tenens Assistant Medical Officer for about seven weeks. Terms four guineas per week, with board, lodging, and washing

MIDDLESBROUGH, NORTH RIDING INFIRMARY —Assistant House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing.

NEW HOSPITAL FOR WOMEN, Euston road, London.—Ophthalmic Surgeon (female)

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months. Honorarium £20, with board, residence, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House Surgeon. Salary £50 a year, with apartments, board, washing, and attendance.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Pathologist and Bacteriologist. Salary £75 per annum, with lunch. Also House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry. Also House Physician for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

ROYAL FREE HOSPITAL, Gray's Inn road, W C.—Anæsthetist.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Refraction Assistant. Salary £25 a year, with lunch.

SAINT LEONARD, SHOREDITCH, INFIRMARY AND WORKHOUSE.—Resident Assistant Medical Officer. Salary £150 per annum, with rations, apartments, and washing.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £90 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer Salary [illegible] per annum, with apartments, rations, &c.

STIRLING DISTRICT ASYLUM, Larbert, N.B —Assistant Medical Officer (female). Salary £100, with board, lodging, and laundry

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months Salary at rate of £40 per annum, with board, washing, and residence

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck street, W.—Resident House Physician and Medical Registrar for six months, renewable. Salary at rate of 50 guineas per annum, with board, washing, and attendance.

WEST LONDON HOSPITAL, Hammersmith road, W.—House Physician for six months. Board, lodging, and laundry provided.

WOKINGHAM, BERKS, LONDON OPEN AIR SANATORIUM.—Assistant Medical Officer. Salary £100 per annum and all found.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY —House Surgeon. Salary £70 per annum, with rooms, board, and washing.

WREXHAM, BOROUGH OF.—Medical Officer of Health. Salary £30 per annum.

Births, Marriages, and Deaths.

BIRTHS.

BATEMAN —On June 1st, at Heath End, Blackheath, S.E., the wife of F J. Harvey Bateman, M A., M.D , of a son.

CAMPBELL.—On May 29th, at North street, Elgin, the wife of Donald G. Campbell, M.B., of twin sons (one stillborn)

HUBERT.—On June 1st, at Rosehill, Billingshurst, Sussex, the wife of W. A. Hubert, M.R.C.S , L.R.C P. Lond., of a son

MARRIAGES.

FLEMMING—BARRETT.—On 5th June, at St. Andrew's Church, Holborn, by the Rev. Knight McDowell, Arthur L. Flemming, M.R.C.S., L.R.C.P , of 34, Alma road, Clifton, Bristol, son of the late Thomas Henry Flemming, M.D , of Freshford, Bath, to Violet Helen, second daughter of the late John Barrett, Esq., of Dunham Massey, Cheshire.

MASTER—PERRING.—On May 11th, at the British Consulate, Canea, Crete, Major A. E. Master, R.A.M.C , to Ethel Lucy, fourth daughter of the late Henry Scobell Perring, of Northam, N Devon.

NOEL—SWEETING —On June 6th, at St. Margaret's, Westminster, by the Rev. Linton Thorp, vicar of Kennington, Kent, assisted by the Rev Canon Hensley Henson, rector of the parish, and the Rev A. J. Carlyle, chaplain of University College, Oxford, Marjorie, elder daughter of Dr. R. Deane Sweeting, of 34, Carlisle Mansions, S W., to Evan Baillie, only son of Eugene F. Noel, of 15, Craven-hill gardens, Hyde Park, W.

DEATHS.

HICKS.—On the 30th May, in London, George Augustus Hicks, M.R.C.S , L.R.C P., of Bournemouth East, son of the late Thomas Hicks, Esq , of Upton grove, Torquay, in his 70th year.

LYLE.—On June 2nd, at Eversley, Elmfield road, Bromley, Kent, Elizabeth Ada, the dearly loved wife of H Willoughby Lyle, M.D., B.S Lond., F.R.C S. Eng., of Bromley, Kent, and 29, Charles-street, Berkeley-square, W.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BRITISH ELECTRIC INSTITUTE.

A MEDICAL man has forwarded to us certain literature emanating from the British Electric Institute which has its headquarters at 25, Holborn-viaduct, London, E.C. The literature consists of a pamphlet entitled "A Sound Mind in a Sound Body" and ten folios of typewritten matter which was sent to a patient of our correspondent. The pamphlet, which is obviously written to puff the apparatus which is sold by the British Electric Institute and which is called the "Ajax Dry Cell Battery," is a very cunningly drawn document. It is an admirable instance of Tennyson's dictum that a lie which is half the truth is ever the basest of lies. It quotes various passages from standard books on the medical use of electricity and then goes on to say that the Ajax dry cell is the most convenient way of applying electricity. For instance, under the heading "Paralysis" the pamphlet quotes the name of Dr. Erb as holding that benefit may occasionally be obtained in cases of paralysis from the use of a continuous galvanic current. It then goes on to say: "We can heartily recommend Ajax dry cell as being the most favourable and effective means known for the treatment of this complaint and our successful experience in many even aggravated cases justifies that confidence." On p. 7 the pamphlet states that the medical chapters herein have been compiled by a fully qualified English doctor and "We are also prepared to prove that we can do what we say we can do and submit our system to medical men or laymen. We court inquiry and welcome investigation." On p. 15 we find the following: "We invite the most thorough examination and criticism of the profession." Having read these pressing invitations we paid a visit to the British Electric Institute which or whom we found housed in three somewhat grubby rooms on the second floor of 25, Holborn-viaduct. Having been strictly interrogated as to whether we had been previously in correspondence with the institute we were shown into a small room upon a table in which lay a belt and a volt-meter registering up to about nine volts. The active part of the belt consisted of six small dry cells connected in series to two sets of metallic discs and a current collector very indifferently finished in the common form of a semicircle of studs furnished with a metal radius. The gentleman who was deputed to show us the apparatus was exceedingly polite and having connected the naked metal ends of the leads of the volt-meter with the naked metal discs of the belt (we should add that a washleather cover is supplied for use when the belt is worn) the volt meter showed a reading of between eight and nine volts. We then asked him how much current the battery would give and he said that we could see for ourselves that it was about nine volts. When we pointed out that voltage does not mean amount he frankly said that he knew nothing about that, that nobody had ever asked him about the amount of current before, but he said, "I will fetch the manager." When the manager arrived he proved to be even more ignorant than the assistant. Like him, when we inquired how much current was passing he said he had never been asked the question before. We then pointed out that on p. 2 of another pamphlet issued by the institute, called "Electrical Expert Opinion on Ajax Dry Cell," it was stated that Ajax dry cell "not only gives a current of great volume but produces it without any preparation." We then asked him what volume of current the battery before us gave, when he said: "You can see the volume of voltage is nine volts." On our pointing out that there was no such thing as a volume of voltage he told us to look at the electrical opinions in the pamphlet to which we have referred. We did so and there found that the six-celled battery with a total voltage of 8·4 volts was said to give, with all the cells in circuit, 0·84 of a milliampère through 10,000 ohms resistance. We then inquired if the six cells were made of the usual constituents of dry cells, whereupon he said that they were just the same except that they were put up in flattened cases instead of cylindrical. We then pointed out that the retail price of such cells was about 1s. 2d. each, with which statement the manager agreed. When we said that the cells and belt together must have cost under 10s. and that it was sold for 15 guineas he allowed that the sum of 15 guineas was a great deal more than the intrinsic value of the belt but he said "our expenses are enormous in pushing our business." When we hinted that to make £15 5s. profit on an expense of 10s. must be an eminently lucrative business we are sorry to say that the manager lost his temper and asked us if we had come to buy a belt or merely to get information. When we said that we had come to get information, and, moreover, that we had got it, he wished us good-day and slammed the door behind us with unnecessary violence. Now, there is no law to prevent anybody manufacturing a thing at the cost of under 10s. and selling it for 15 guineas if he can find anybody foolish enough to buy, but there is a law against obtaining money under false pretences and the pamphlet from which we have quoted, in our opinion, would come under this law. The total voltage of the six cells which we saw running through the volt-meter was about 8·5 volts. The average resistance of the human body, excluding mucous surfaces, even in the most favourable circumstances, is 6000 ohms. 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SIRS,—In THE LANCET of June 2nd, p. 1580, in referring to the above (and the Analytical Report in your issue of Nov. 4th, 1905, p. 1338) the following occurs: "The firm whose name was mentioned in the Analytical Report are only wholesale agents." If you refer to the report the only name mentioned is my own. I do not and never have dealt in manufactured tobacco. Being of public importance, with the knowledge of the Admiralty, I submitted it to you. As my position as expert precludes my trading you will at once see the necessity of removing this impression. As far as Messrs. Cohen, Weenen, and Co. are concerned you will see by enclosed they are acting by consent only. Kindly correct this in next issue and oblige,

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PAROGEN: A NEW BASIS FOR LINIMENTS.

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DELMEGE, LOUIS EDWARD, L.R.C.P. *Edin.*, L.R.C.S. *Irel.*, has been appointed Medical Officer of Health for the Shire of Huntley, *Victoria, Australia.*

DICKSON, A. N., M.R.C.S., L.R.C.P. Lond., has been appointed House *Physician to Out-Patients* at St. Thomas's Hospital.

DREW, J. H., M.B., B.S. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

EDWARDS, FRANK PAYNE, M.B. Cantab., has been appointed Medical Officer of Health for the Shire of Dimboola, Victoria, Australia.

FALK, H., M.B., B.C. Cantab., has been appointed Resident House Surgeon at St. Thomas's Hospital.

GRAY, H. T., B.A., B.C. Cantab., has been appointed Resident House Surgeon at St. Thomas's Hospital.

HOBSON, H. OVERTON, M.D. Edin., *has been appointed Examiner in* Medicine at the Cairo Medical School.

HOOKER, A. W., M.B., B.S. Lond., has been *appointed Resident* House Surgeon at St. Thomas's Hospital.

JEWESBURY, R. C., M.B., B.Ch. Oxon., has *been appointed Resident* House Physician at St. Thomas's Hospital.

LANDER, CHARLES LLEWELLYN, M.B., B.S., B.Sc. *Lond.*, has been appointed Assistant Surgeon to the Royal Albert Hospital, Devonport.

LA TOUCHE, EDMUND DIGGES, L.R.C.S. Irel., has been appointed Medical *Officer of* Health for the *Shire* of Howqua, Victoria, Australia.

MAY, W. PAGE, M.D. Lond., F.R.C.P. Lond., has been appointed Lecturer on the *Physiology of the Nervous System at University* College, London.

MCDONALD, J., M.B., M.S. *Glasg.*, has been appointed Certifying Surgeon under the Factory and Workshop Act for the Barking District of the county of Essex.

MCENTIRY, JAMES JOSEPH, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Shire of Kerang, Victoria, Australia.

MCLEAN, JOHN SAMUEL, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Shire of Morwell, Victoria, Australia.

NAYLOR, RUPERT GEORGE, L.R.C.P. Edin., F.R.C.S. Edin., has been appointed Medical Officer of Health for the Shires of Bulla and Melton, Victoria, Australia.

NORBURY, L. B. C., M.B., B.S. Lond., has been appointed Junior Casualty Officer at St. Thomas's Hospital.

PARSONS, J. H., M.B., B.S. *Lond.*, F.R.C.S. Eng., has been re-appointed *Lecturer* in Physiological Optics at University *College, London.*

PORTER, A. B., M.D., *D.P.H. Camb., has been appointed* Medical Officer of Health of the Borough and Rural District of Reigate.

SANKEY, W. O., *M.R.C.S., L.R.C.P. Lond., has been appointed* House Physician to Out-patients at St. Thomas's Hospital.

SCOTT, ERIC NORHAM, L.R.C.P. & S. Edin., L.F.P.S. *Glasg.*, has been appointed Medical Officer of Health for Arawata, Korumburra, and Jumbunna *Ridings, Victoria, Australia.*

SINGTON, H. S., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House *Physician* at *St. Thomas's Hospital.*

SQUIRES, H. C., M.B., B.Ch. Oxon., has been appointed House Physician to Out-patients at St. Thomas's *Hospital.*

WRIGHT, F. R. E., M.B. Lond., has been appointed Senior Casualty Officer at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House *Surgeon. Salary £70 per annum, with board, washing, &c.*

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary *£100* per annum, *with apartments, board, and attendance.*

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. *Salary £100 per annum, with apartments,* board, attendance, fire, and gas.

BRIGHTON THROAT AND EAR HOSPITAL, *Church-street, Queen's road.*—Non-resident House Surgeon *for* six months, renewable. Salary at rate of *£75* per annum.

BROMSGROVE, WORCESTERSHIRE, BARNSLEY HALL ASYLUM.—Medical Superintendent. Salary £600 per annum and *unfurnished house,* with fuel, light, washing, and garden produce.

DEVONPORT, ROYAL ALBERT HOSPITAL.—*Assistant Resident* Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board and lodgings.

EGYPTIAN GOVERNMENT, MINISTRY OF EDUCATION.—Professor of Midwifery and Gynæcology. Salary *£400* a year. *Also Medical Tutor* and Registrar to Kasr-el-Ainy Hospital. Salary £400 a year.

EVELINA HOSPITAL FOR SICK CHILDREN, *Southwark, S.E.*—*Assistant* House Surgeon. Salary £70, with board, residence, and washing. Also Radiographer. Salary £50 per *annum.* Also *Clinical* Assistants.

GORDON HOSPITAL FOR FISTULA, &c., *Vauxhall Bridge* road, *S.W.*—*Honorary* Anæsthetist.

GRIMSBY AND DISTRICT HOSPITAL.—*Resident House* Surgeon. Salary £100 per *annum,* with board, lodging, and washing.

HANTS COUNTY ASYLUM.—Third *Assistant Medical* Officer, unmarried. *Salary £150* per annum, with apartments, board, washing, and attendance.

HOSPITAL *FOR* DISEASES OF THE THROAT, Golden square, W.—Honorary Assistant Surgeon.

INDIAN MEDICAL SERVICE.—Examination for not less than Twenty Commissions.

ITALIAN HOSPITAL, Queen-square, London, W.C.—House Surgeon for six months, renewable. Salary *£60 per annum,* with board and residence.

LEEDS, CITY OF, SANITARY COMMITTEE.—Assistant Medical Officer of Health and Chief Inspector of Nuisances. Salary £300 *per annum.*

LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Pathologist and Assistant to the Medical Staff. *Salary £150 per* annum.

LIVERPOOL STANLEY HOSPITAL.—*Assistant Honorary Ophthalmic* Surgeon.

LIVERPOOL *WORKHOUSE AND HOSPITAL, Rice lane, Walton.—Assistant* Resident Medical Officer, unmarried. Salary £125 per annum, *with board.*

LONDON HOSPITAL, Whitechapel, E.—Medical Registrarship.

*MIDDLESBROUGH, COUNTY BOROUGH ASYLUM.—Locum Tenens Assist*ant Medical Officer for about seven weeks. Terms four guineas per *week, with board, lodging,* and washing.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House *Surgeon, unmarried. Salary* £75 per annum, with residence, board, and washing.

NEW HOSPITAL FOR WOMEN, *Euston-road, London.*—Ophthalmic Surgeon (female).

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months. Honorarium £20, with board, residence, and laundry.

NORTHAMPTON *GENERAL HOSPITAL.*—Assistant House Surgeon. Salary £50 a year, with apartments, board, washing, and attendance.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Pathologist and Bacteriologist. Salary £75 per annum, with lunch. Also House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry. Also House Physician for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Anæsthetist.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Refraction Assistant. Salary £25 a year, with lunch.

SAINT LEONARD, SHOREDITCH, INFIRMARY AND WORKHOUSE.—Resident Assistant Medical Officer. Salary £150 per annum, with rations, apartments, and washing.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £90 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with apartments, rations, &c.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Assistant Medical Officer (female). Salary £100, *with board,* lodging, and laundry.

STOCKPORT INFIRMARY.—*Junior Assistant* House Surgeon for six months. Salary at rate of *£40* per annum, with board, washing, *and residence.*

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, *lodging, and washing.*

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck street, W.—*Resident House* Physician and Medical Registrar for six months, renewable. Salary at rate of 50 guineas per annum, with board, washing, *and attendance.*

WEST LONDON HOSPITAL, Hammersmith road, W.—House Physician for six months. Board, lodging, and laundry *provided.*

WOKINGHAM, BERKS, LONDON OPEN-AIR SANATORIUM.—Assistant Medical Officer. Salary £100 per annum and all *found.*

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House *Surgeon. Salary £70* per annum, with *rooms, board,* and washing.

WREXHAM, BOROUGH OF.—Medical Officer of Health. Salary £90 per *annum.*

Births, Marriages, and Deaths.

BIRTHS.

BATEMAN.—On June 1st, at Heath End, Blackheath, S.E., the wife of F. J. Harvey Bateman, M.A., M.D., of a son.

CAMPBELL.—On May 29th, at North street, Elgin, the wife of Donald G. Campbell, M.B., of twin sons (one stillborn).

HUBERT.—*On June 1st, at Rosehill,* Billingshurst, Sussex, the wife of W. A. Hubert, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

FLEMMING—BARRETT.—On 5th June, at St. Andrew's Church, Holborn, by the Rev. Knight McDowell, Arthur L. *Flemming,* M.R.C.S., L.R.C.P., of 34, Alma-road, Clifton, Bristol, son of the late Thomas Henry Flemming, M.D., of Freshford, Bath, to *Violet Helen,* second daughter of the late John Barrett, Esq., of Dunham Massey, Cheshire.

MASTER—PERRING.—On May 11th, at the British Consulate, Canea, Crete, Major A. E. Master, R.A.M.C., *to Ethel Lucy,* fourth daughter of the late Henry Scobell Perring, of Northam, N. Devon.

NOEL—SWEETING.—On June 6th, at St. *Margaret's, Westminster,* by the Rev. Linton Thorp, vicar of Kennington, Kent, assisted by the Rev. Canon Hensley Henson, rector *of the parish,* and *the* Rev. A. J. Carlyle, chaplain of University College, Oxford, Marjorie, elder daughter of Dr. R. *Deane Sweeting, of* 34, Carlisle Mansions, S.W., *to* Evan Baillie, only son of Eugene F. Noel, of 15, Cravenhill-gardens, Hyde Park, W.

DEATHS.

HICKS.—On the 30th May, in *London, George Augustus* Hicks, M.R.C.S., L.R.C.P., *of* Bournemouth East, son *of* the late Thomas Hicks, Esq., of Upton grove, *Torquay,* in his 70th year.

LYLE.—*On* June 2nd, at Eversley, *Elmfield* road, Bromley, Kent, Elizabeth Ada, the *dearly loved wife* of H. Willoughby Lyle, M.D., B.S. *Lond.,* F.R.C.S. Eng., of Bromley, Kent, and 29, Charles-street, Berkeley-square, W.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BRITISH ELECTRIC INSTITUTE.

A MEDICAL man has forwarded to us certain literature emanating from the British Electric Institute which has its headquarters at 25, Holborn-viaduct, London, E.C. The literature consists of a pamphlet entitled "A Sound Mind in a Sound Body" and ten folios of typewritten matter which was sent to a patient of our correspondent. The pamphlet, which is obviously written to puff the apparatus which is sold by the British Electric Institute and which is called the "Ajax Dry Cell Battery," is a very cunningly drawn document. It is an admirable instance of Tennyson's dictum that a lie which is half the truth is ever the basest of lies. It quotes various passages from standard books on the medical use of electricity and then goes on to say that the Ajax dry cell is the most convenient way of applying electricity. For instance, under the heading "Paralysis" the pamphlet quotes the name of Dr. Erb as holding that benefit may occasionally be obtained in cases of paralysis from the use of a continuous galvanic current. It then goes on to say: "We can heartily recommend Ajax dry cell as being the most favourable and effective means known for the treatment of this complaint and our successful experience in many even aggravated cases justifies that confidence." On p. 7 the pamphlet states that the medical chapters herein have been compiled by a fully qualified English doctor and "We are also prepared to prove that we can do what we say we can do and submit our system to medical men or laymen. We court inquiry and welcome investigation." On p. 15 we find the following: "We invite the most thorough examination and criticism of the profession." Having read these pressing invitations we paid a visit to the British Electric Institute which or whom we found housed in three somewhat grubby rooms on the second floor of 25, Holborn-viaduct. Having been strictly interrogated as to whether we had been previously in correspondence with the institute we were shown into a small room upon a table in which lay a belt and a volt-meter registering up to about nine volts. The active part of the belt consisted of six small dry cells connected in series to two sets of metallic discs and a current collector very indifferently finished in the common form of a semicircle of studs furnished with a metal radius. The gentleman who was deputed to show us the apparatus was exceedingly polite and having connected the naked metal ends of the leads of the volt-meter with the naked metal discs of the belt (we should add that a washleather cover is supplied for use when the belt is worn) the volt meter showed a reading of between eight and nine volts. We then asked him how much current the battery would give and he said that we could see for ourselves that it was about nine volts. When we pointed out that voltage does not mean amount he frankly said that he knew nothing about that, that nobody had ever asked him about the amount of current before, but he said, "I will fetch the manager." When the manager arrived he proved to be even more ignorant than the assistant. Like him, when we inquired how much current was passing he said he had never been asked the question before. We then pointed out that on p. 2 of another pamphlet issued by the institute, called "Electrical Expert Opinion on Ajax Dry Cell," it was stated that Ajax dry cell "not only gives a current of great volume but produces it without any preparation." We then asked him what volume of current the battery before us gave, when he said: "You can see the volume of voltage is nine volts." On our pointing out that there was no such thing as a volume of voltage he told us to look at the electrical opinions in the pamphlet to which we have referred. We did so and there found that the six-celled battery with a total voltage of 8·4 volts was said to give, with all the cells in circuit, 0·84 of a milliampère through 10,000 ohms resistance. We then inquired if the six cells were made of the usual constituents of dry cells, whereupon he said that they were just the same except that they were put up in flattened cases instead of cylindrical. We then pointed out that the retail price of such cells was about 1s. 2d. each, with which statement the manager agreed. When we said that the cells and belt together must have cost under 10s. and that it was sold for 15 guineas he allowed that the sum of 15 guineas was a great deal more than the intrinsic value of the belt but he said "our expenses are enormous in pushing our business." 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THE A. E. JONES FUND.

To the Editors of THE LANCET.

SIRS,—Will you allow me to acknowledge in THE LANCET the receipt of the following additional subscriptions to the above fund?

I am, Sirs, yours faithfully,

45, Queen Anne-street, W., June 5th, 1906. C. WYNN WIRGMAN.

	£	s.	d.		£	s.	d.
Dr. H. Radcliffe Crocker	3	3	0	Dr. H. Lambert Lack ...	1	1	0
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* From the Dorset and West Hants branch of the British Medical Association.

A WELL-WON MEDAL.

A LANCASHIRE correspondent writes.—"Some may possibly remember the brave deed of a baker's carter named Stockton at Warrington on March 6th, 1905. While cleaning a sewer a workman was overcome by foul gas and became unconscious. Two of his mates went to his help and were also struck down by the gas. Stockton, who was passing, volunteered to try to save them and descended the manhole. At first he was driven back but tried again and brought up one man alive. Then he went down again a third and fourth time and brought up the other two, but one was dead. He was awarded the Stanhope medal, the highest and most prized award for life saving and commemorating what was considered to be the bravest deed of the year. It has never come to Lancashire since its institution in 1873 and Lancashire is therefore proud that the county possesses so brave a man."

WANTED—HOME FOR AN EPILEPTIC.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly inform me whether there is any likelihood of employment being obtained by a parlourmaid subject to epileptic fits in some kind of epileptic home or farm colony? The girl can give good references but is now in danger of not being engaged by any lady considering the fact of the epileptic history. Her relatives are unable to maintain her.

I am, Sirs, yours faithfully,

"BEXHILL."

May 18th, 1906.

LYXHAYR—A SANITARY BED STUFFING.

Messrs. Lyxhayr, Limited, of Grove Mills, Mitcham, Surrey, have sent us a specimen of "lyxhayr," which is a material designed to supersede ordinary bed stuffing. It is purely a vegetable fibre prepared in a special way, so that it is very suitable for the purpose. It is a "springy" material, black in colour, and absolutely without odour. During its preparation from the raw fibre "lyxhayr" is sterilised It is used extensively, it is, stated, in hot climates with very satisfactory results, which we can well believe in view of a few crucial experiments which we made with it. "Lyxhayr," we should say, provides a very cleanly and healthy material for stuffing mattresses and the like. The proprietors state that they could mention more filthy cases than that described in an annotation under the heading of "Loathsome Bed Stuffing" published in THE LANCET of March 10th, p 690.

THE PSYCHO PHYSIOLOGY OF MOTORING.

A MEDICAL man, above the pseudonym "Motor-Therapeutist," desires to know of any references or experiences throwing light on the psycho physiological effects of motoring in health and disease.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (16th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (12th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. H. French and Dr. H. T. Hicks: Mitral Stenosis and Pregnancy.

WEDNESDAY (13th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish square, W.).—5.15 P.M. Meeting.

THURSDAY (14th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Macnaughton Jones. Paper—Dr. R. Lyle: A Series of 50 Consecutive Abdominal Sections.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. G. Pernet: Clinique (Skin). 5.15 P.M. Lecture:—Dr. D. Grant Disorders of Hearing due to Residua of Suppurative Inflammation of the Middle Ear.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—10 A.M. Medical and Surgical Wards. 11 A.M. Minor Operations 12 noon. Dr. Low: Pathological Demonstration 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 3 P.M. Mr. Paget: Demonstration in Surgical Wards. 5 P.M. Dr Davis: Renal Disease.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich)—2.30 P.M. Operations. Sir D. Duckworth Medicine. 3.15 P.M. Mr. W. Turner Surgery. 4 P.M. Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M. Dr. MacLeod: Demonstration (Dermatological). (Post-Graduate Course.)

TUESDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Dr. J. W. Carr: Clinique. (Medical.) 5 15 P.M. Lecture:—Mr. R. Johnson: The Diseases of the Breast which may Resemble Carcinoma.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. 10 30 A.M. Dr. Moullin: Gynæcology. 11 A.M. Minor Operations. 2 P.M. Medical and Surgical Clinics. 2 30 P.M. Operations. Skin. Throat, Nose, and Ear. 5 P.M. Dr. Taylor: Treatment of Enteric Fever.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. T. Hewlett: Medicine. 3 15 P.M. Mr. Carless: Surgery. 4 P.M. Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. Buzzard: Ilio-Psoas Type of Myopathy.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Mr. H. W. Carson: Tuberculous Laryngitis.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M. Dr. C. E. Harris: The Manufacture and Sophistication of Potable Spirits. (Lecture I.)

WEDNESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Cheatle: Clinique. (Surgical). 5.15 P.M. Lecture:—Mr. J. Poland: The Use of Mechanical Appliances in Surgical Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Diseases of Children. 11 A.M. Minor Operations. 12 noon. Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Diseases of Women. 3 P.M. Mr. Bidwell: Intestinal Anastomoses. 4.15 P.M. Dr. Beddard: Medical Cases. 5 P.M. Dr. Cole: Melancholia and its Treatment.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. F. Taylor: Medicine. 3 15 P.M. Mr. M. Robson: Surgery. 4 P.M. Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Mr. Stuart-Low: Ear.

THURSDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical). 5.15 P.M. Lecture:—Mr. M. Fletcher: Certain Points in the Diagnosis and Treatment of Meningitis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. 11 A.M. Minor Operations. 12 noon. Dr. Low: Tropical Medicine. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Mr. Dunn: Eye. 4 P.M. Dr. Hood: Medical Cases. 5 P.M. Mr. Edwards: Rectal Cases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. G. Rankin: Medicine. 3 15 P.M. Sir W. Bennett: Surgery. 4 P.M. Mr. M. Davidson: Radiography. Out patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Bosanquet: Demonstration (Medical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt Ormond street, W.C.).—4 P.M. Lecture:—Dr. Still: Some Disorders of Movement in Children.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M. Dr. L. W. Sambon: The Rôle played by Animals in the Causation and Transmission of Disease (illustrated by lantern slides, coloured diagrams (by Signor Terzi), and microscopical and other specimens).

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. G. P. Chappel: Hæmatemesis.

FRIDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Ear).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Practical Anæsthetics. 11 A.M. Minor Operations. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 3 P.M. Mr. Bidwell: Intestinal Surgery. 5 P.M. Mr. Paget: Surgical Cases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. Bradford: Medicine. 3 15 P.M. Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. A. Turner: Paralysis Agitans.

SATURDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. 11 A.M. Minor Operations. 2 P.M. Medical and Surgical Clinics, 2.30 P.M. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M. Operations. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 7th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 1	29·55	W.	...	116	64	43	49	53	Cloudy
" 2	29·83	N.E.	0·04	91	61	48	49	51	Raining
" 3	30·02	N.	0·03	117	69	44	57	61	Cloudy
" 4	30·25	N.E.	...	104	62	46	64	53	Cloudy
" 5	30·33	N.E.	...	111	65	45	45	49	Cloudy
" 6	30·35	E.	...	117	69	48	51	54	Fine
" 7	30·25	E.	...	114	71	47	53	59	Fine

During the week marked copies of the following newspapers have been received:—*Belfast Whig, Morning Advertiser, Dundee Courier, Exeter Gazette, Leicester Mercury, Huddersfield Examiner, Bolton Chronicle, Daily Telegraph, Dublin Times, Leicester Post, Glasgow Record, Leeds Post, Bradford Observer, Dublin Express, Belfast News Letter, Liverpool Post, Camberwell Times, Notts Express, Westminster Gazette, Blackburn Telegraph, &c.*

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A Lecture
ON
THE USES OF PESSARIES.

Delivered at the Medical Graduates' College and Polyclinic

BY PETER HORROCKS, M.D. LOND.,
F.R.C.P. LOND.,
SENIOR OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL.

LADIES AND GENTLEMEN,—Operations nowadays can be performed with such safety that they are undertaken in cases which would never have been touched with the knife a generation ago. And whilst all must rejoice to think that science has attained to such perfection, yet it behoves us to take care lest we carry it to excess. Whenever an operation is being performed it is a good and sound principle to try to remove as little as possible and to leave the parts in as natural a condition as may be, consistent, of course, with the attainment of the object in view—namely, the relief of the patient. Not only so, but the principle of avoiding operation altogether when non-operative measures can be employed is one which is worth your consideration and one which I venture to believe will ultimately become not only well recognised but also acted upon by the bulk of the profession. It does not follow because a patient recovers without a bad symptom and is cured of some complaint by an operation that the operation is justified. Instances could be given where the unjustifiableness is very obvious. But this want of justification is not always so apparent. And cases arise where one authority will strongly urge operative treatment in which an equally good authority will just as strenuously oppose operation. Where operation can be avoided by adopting milder measures they ought to be employed when those milder measures give better, or as good, or even not quite such good, results as operations. Pessaries when properly used will give relief to many of the complaints for which at the present time some men are advocating operations instead. It is harder to learn how to use pessaries properly than to do operations and it is difficult for a man in general practice to acquire a special knowledge in these things when he has so many other matters to engage his attention. It is for these reasons that the subject of the uses of pessaries has been selected for to-day's lecture in order that one may try to give you the results of the experience gained in over 20 years of busy practice in gynæcology.

The word "pessary" is derived from πεσσος, a kind of plug of wood or lint steeped in medicinal substances to be introduced into the vagina, anus, &c. Speaking broadly, its use at the present time is chiefly to remedy, or prevent, or alleviate some form of displacement of more or less of the pelvic floor. This displacement may be fitly compared with a hernia, in which case a pessary would represent and fulfil the same functions as a truss, though, as will be seen, its action is often more complicated than that of a truss. Pessaries are sometimes employed successfully for reasons other than displacement and these uses will be described later.

For the successful use of pessaries in the various forms of displacement it is necessary to have a clear idea of the causes at work in the production of displacements, of the various means of removing or minimising such factors, of the various kinds of pessaries suitable for different cases, and of certain adjuvants which assist in the successful employment of these instruments. The displacements are those of some part or parts of the pelvic floor, and often, also, of some organ or organs more or less intimately attached to that floor. Hence, it is necessary to remind you of what the pelvic floor consists and of the organs which are associated with it in displacements.

The pelvis is lined by peritoneum and if you open the abdomen and remove the intestines from its cavity you see that the peritoneum covers all the organs and that it is reflected on to the sides of the pelvis to become continuous above with the rest of the abdominal peritoneum. It is practically a continuous sheet, the two tiny openings into the Fallopian tubes being of no account so far as the present subject is concerned. The intestines lie above this peritoneal surface and whatever pressure is brought to bear upon it is transmitted for the most part through the bowels. You will find different accounts of the structure and arrangement of the parts in the pelvic floor; but all are agreed that it consists of fasciæ, muscles, connective tissue, ligaments, and fat, together, of course, with the various nerves, blood-vessels, and lymphatics; that it is covered in above by the peritoneum; and that outwardly it is continuous with the skin. Between these two—namely, the pelvic peritoneum and the outside skin—is a strong fibrous diaphragm, continuous at the sides with, and called in anatomical works a process of, the pelvic fascia. Then there are the coccygei and levatores ani muscles which form a strong but incomplete muscular diaphragm; anteriorly is the triangular ligament. The rectum behind, the vagina in the middle, and the urethra in front run through the structures that close in the pelvis, perforating the parts except, of course, the peritoneum. These perforations weaken the pelvic floor but the hollow tubes themselves are supported and strengthened by muscles, fasciæ, connective tissue, and fat. The vagina is perforated above by the cervix uteri which it embraces and with which it is intimately united.

The uterus is maintained in its position by its attachment to the vagina below, to the bladder by loose cellular tissue and peritoneum in front, by the broad ligaments laterally, by the reflected peritoneum posteriorly, together with the utero-sacral ligaments behind, the round ligaments in front, and the Fallopian tubes at the sides.

Some form of displacement of part or parts of the organs just mentioned in the pelvic floor, using this in its widest sense, is extremely common amongst women. And the reason of this is because it is as a rule the weakest part of the abdomino-pelvic cavity. Whenever the pressure within that cavity is increased, naturally the weakest part gives way. Again, whenever the pelvic floor possesses less strength either from congenital causes or, what is far more common, from damage sustained during life, of which parturition is the most potent, naturally it yields to slighter pressure, or it yields more extensively to the same pressure to which it was subjected before the weakening. Again, imbedded in the tissues of the pelvic floor is an organ which is extremely prone to increase in bulk and weight and which is liable, owing to the instability of its position, to various forms of displacement.

The causes of displacements.—The first, foremost, greatest, and most important of these causes is increase in intra-abdominal pressure brought about, as a rule, by hard work but sometimes by hard play, by chronic cough, constipation (straining at stool), fits, or accidents. This cause is quite sufficient to produce the worst forms of displacement of the uterus, even where there has been no damage whatsoever done to the pelvic floor. I remember seeing a poor overworked servant girl of 16 years, with the cervix uteri protruding through the hymeneal orifice, the hymen being stretched by this protruding mass. In fact, she had partial procidentia and on inquiry it was found that she had to carry heavy coal-scuttles from the bottom to the top of a high building. But you find that the commonest form of displacement is prolapse and that it occurs chiefly amongst the hard-working population. Charwomen, washerwomen, laundresses, women who have to stand for long hours every day, women who are employed as rubbers in Turkish baths, masseuses, nurses who lift heavy patients, and women who do any kind of work that involves straining, especially when they have to do it for hours at a stretch, these are they who suffer chiefly from displacements, and it is because of this increased intra-abdominal pressure. Again you will find it in women who suffer from chronic cough, such as in pulmonary tuberculosis, chronic bronchitis, asthma, and the like; amongst those who are obliged to strain a great deal at stool through chronic constipation and amongst those who strain for other reasons, and in all these cases it is this increased intra-abdominal pressure which is the cause. Then in play you will often find amongst women who strain excessively at golf, tennis, cycling, &c., the same force of increased intra-abdominal pressure causing the displacement. Similarly a person subject to fits may for the same reason acquire a pelvic displacement. And in a few cases displacements are caused by a sudden strain, as in accidents where the diaphragm and abdominal muscles are thrown into excessive action often by an involuntary reflex act as, for instance, where a patient makes a sudden effort to save herself from a fall.

The fact is that the pelvic floor is the weakest part of the abdomino-pelvic cavity in a woman so that when the pressure within gets more than its walls can sustain, naturally the weakest part gives way. In a man this is generally the femoral or inguinal canal and hence men who strain hard, at work, &c., not infrequently get a hernia; whereas a woman under the same conditions of strain gets some form of displacement, such as prolapse of the uterus. It is a well-known fact that hernia through the inguinal and femoral canals is far rarer amongst women than amongst men, and the reason is because the pelvic floor is the weakest part in the abdomino-pelvic cavity of a woman and the inguinal and femoral canals in that of a man; in fact I would say masculine hernia, feminine prolapse. A woman, however, is more frequently affected by umbilical hernia than a man because this spot is so often weakened by the stretching of the abdominal wall through pregnancy. And still more frequently you often find the recti abdominis so separated and the aponeurosis so damaged by one or more pregnancies that the woman suffers from a ventral hernia, which as a rule is in no danger of strangulation because it is so long and so wide. In such women you can generally demonstrate the presence of this ventral hernia by getting them to increase the intra-abdominal pressure by raising the head, or by coughing, or by bearing down whilst they are laid in the dorsal position; you will then see the elongated more or less wide and oval protrusion appear in the median line and with your fingers you can feel the edges of the recti muscles more or less widely separated one from the other. Now please notice that when a woman has this condition she does not suffer from displacement, or at all events if she has some displacement it is scarcely if at all increased by exertion. For if your place your finger on the cervix uteri and place the other hand on the abdominal wall and ask the patient to raise her head, or cough, or bear down, you will feel the forcible bulging of the ventral hernia whilst the uterus will scarcely be affected. Whereas when there is no ventral or other hernia the effect of raising the intra-abdominal pressure is to drive the uterus and vaginal walls downwards often quite forcibly.

In cases of ventral hernia the median line of the abdominal wall is the weakest part and hence it gives way, and in doing so the rest of the abdomino-pelvic cavity is saved from the effects of the strain. A ventral hernia thus acts like a safety valve. Similarly, a woman who has an inguinal femoral or umbilical hernia exerts less pressure on her pelvic floor during hard work, coughing, &c. In some cases the difference in the effect on the uterus caused by bearing down is very marked according to whether the hernia is kept up by a well-fitting truss or is allowed to come down freely. In the same way, if you fit a patient who has a ventral hernia with an abdominal belt, the more securely it prevents the ventral protrusion the more powerfully will any strain act upon the pelvic floor. Hence you can often relieve symptoms caused by prolapse of the uterus by simply telling a patient to cease wearing a belt and instructing her to avoid wearing tight corsets, &c. Indeed, one of the causes of displacement of pelvic viscera is the wearing of tight corsets, bands round the abdomen, and other things which interfere with the natural yielding of the abdominal walls proper during strain. Anything which strengthens the abdominal wall or prevents its yielding under pressure, *pari passu* helps in the production of pelvic floor displacement. For the less the abdominal wall yields during the increased pressure of hard work, coughing, straining at stool, standing, walking, &c., the greater is the pressure on the pelvic floor. Conversely, anything which weakens the abdominal walls or which permits a free play for the natural movement of those walls will take off pressure from the pelvic floor and so remove more or less the cause of displacement.

The second cause of displacements and the one which comes next in order of importance is weakening of the pelvic floor. This is brought about usually by labour at full term and the greater the number of such labours the greater is the damage done. No doubt it is the first labour which does the greatest damage as a rule. Assuming that the woman is well developed with an average-sized pelvis and that the child is of an average size and weight the damage done is not excessive and is as a rule easily and fairly effectually repaired. But when you study the structures of the floor of the pelvis and when you think of the enormous stretching of the parts that must take place to permit of the passage of the head of an ordinary child, you must admit that not only is it likely that the parts will be incapable of returning to their original condition but that in most cases there will be more or less laceration. You all know that it is the usual thing to get a notch in the cervix uteri and a slight laceration through the posterior fourchette and a little of the perineum. The vagina itself is stretched so enormously as seldom to regain its original state.

Schatz discovered evidence of laceration in the levatores ani muscles and doubtless the fascia of the pelvic floor is also damaged more or less. Again, it is reasonable to suppose that where these various structures are put to the same stretching process many times they will be less likely to recover their tone than where they are only stretched once. In some women the amount of damage done is apparently very slight. Their tissues seem to be extremely elastic and so to yield as much as is required for the parturition and yet to recoil to their pristine condition. This is especially true where the mother is young—say, between 18 and 24 years of age. Naturally much greater damage is done to the pelvic floor when the child is big or when the passage through which it has to pass is small or where certain obstetric operations are required.

The third cause is getting up too soon after labour. This acts in two ways. In the first place the weakened pelvic floor has not had time to regain its tone and to undergo repair; possibly it never does regain its pristine strength but if sufficient time be allowed to elapse before any pressure is put upon it nature will restore the parts in the best way possible. The older a woman is when she has her first child the longer ought she to remain in bed to permit of repair of damaged parts. In the second place it takes six or eight weeks for the uterus to undergo complete involution and hence before that time has elapsed it is big, bulky, and heavy. Thus if a woman gets up too soon after labour, and particularly if she begins to work—and indeed in many cases this too early getting up is done on account of the necessity for the woman to work—she has a heavy uterus, a larger area of uterus for the intra-abdominal pressure to act upon, and a weakened pelvic floor. Hence the displacement.

The fourth cause is weakness of the pelvic floor from emaciation and loss of tone due to general weakness, as in phthisis, severe illnesses, starvation, bad food, bad air, and bad hygienic surroundings. It must be remembered, however, that such patients are generally so weak that they are not able to use their muscles very powerfully and hence the increase in the intra-abdominal pressure is not so great. Unfortunately many of these patients are obliged to work and it is difficult or impossible for them to obtain the necessary rest.

The fifth cause is the presence of tumours or effusions of lymph, serum, blood, contents of cysts, dragging by contraction of inflammatory products, &c. Displacements under this heading are as a rule of much less moment than the thing which causes them and the treatment by pessaries is only admissible when the cause has been removed.

The sixth cause is an alteration in the condition of the uterine wall. The older it is the more rigid it is; indeed, after the climacteric it is much less flexible owing to the fact that there are a greater proportion of fibrous tissue and less muscular tissue relatively than before the change of life. For this reason no attempt should be made as a rule to correct any abnormal flexion of the uterus after the climacteric. In some cases, however, prolapse and abnormal versions can be remedied. In many cases where there is prolapse as well as abnormal flexion and version keeping the uterus up at a higher level by means of a suitable support relieves the patient of symptoms caused by the flexion and version, although these are not remedied. In some cases the consistence of the uterine wall is so altered that it seems to bend easily in any direction, remaining in whatever position it is placed. Such a condition is, however, but rarely met with and treatment to obtain a better tone in the muscular wall is of as much importance as, if not more than, that by pessaries.

The *seventh* cause is damage to the pelvic floor or disturbance of parts in it by over-distension of the rectum or bladder. The damage is, of course, much less than that done by parturition. But there are a few cases where, for instance, the rectum is greatly distended by fæces and this distension is kept up for days or even weeks and is repeated again and again, so rendering it difficult or impossible for the pelvic floor to recover itself even after the rectum is emptied. The overfilling of the bladder pushes the uterus backwards into a state of slight retroversion until, in fact, it is leaning so far back that the top of the fundus uteri is behind the vertical line and so th[illegible] [illegible]lominal pressure drives it further backwards instead of downwards and forwards on to the bladder. Thus emptying the bladder too seldom is not infrequently a prime cause in starting a retroversion and retroflexion.

You will find, as a rule, that the various displacements which cause the symptoms of which the patient complains are produced slowly and gradually. In comparatively few cases are they suddenly produced. In others words, they are mostly chronic and not acute.

Some forms of displacement you meet are always chronic and never acute. For example, a partial procidentia of the uterus with supravaginal elongation cannot be suddenly acquired. Some years ago a woman, who was a passenger in a train when there was a slight accident, claimed damages on the ground that she had sustained an injury which had caused something to protrude from the vagina. Her own medical attendant and the medical man employed by the railway company disagreeing in regard to the case, it was decided by both patient and railway company and by the two medical men to abide by the decision of a third person. I was asked to arbitrate and I examined the woman with the two medical men. She had a partial procidentia of the uterus with supravaginal elongation. I was able, therefore, to say that it could not have been caused by the railway accident as it was a condition requiring a much longer time to produce. When we returned to the woman after our consultation she admitted that she had been treated for years at more than one hospital on account of falling of the womb and that she had worn different kinds of pessaries. One need hardly say that she did not get the exorbitant sum she demanded, though the railway company generously allowed her a sum sufficient to pay all her expenses.

Retroflexion of the uterus is mostly produced slowly. My experience has been that where a woman increases the intra-abdominal pressure whilst in a bent position she is more liable to acquire a retroflexion. For example, nurses are prone to this form of displacement through lifting patients. They place their hands under a patient, bend down, and then lift. The uterus, which normally lies in a state of anteversion and slight anteflexion, is pushed backwards beyond the vertical line and maybe when the effort is over it does not recover itself. Perhaps the natural structures tending to keep it in position do so for a time but when the same thing happens frequently or when the strain is very excessive the uterus remains slightly retroverted and so in a position for becoming by further pressure converted into further retroversion and, finally, into retroflexion as well.

Mention has already been made of the rôle played by the bladder when it is allowed to get over-filled. Every sort of exertion tends to produce retroversion and retroflexion when the bladder is distended.

You will have gathered from the remarks that have been already made that in every case of displacement you are called upon to treat it is necessary not only to make out the kind of displacement but also how it has been produced. You can then give the patient good advice with a view of eliminating, or as much as possible lessening, the causes which have been at work. For example, in a young unmarried girl whose uterus has begun to get prolapsed through hard work I have many times been able to save her from procidentia and even from the necessity of wearing a pessary by advising her to give up the work and to take to a sedentary employment such as dressmaking. In some cases it is impossible for the patient to give up her work but still you should always do your best to impress upon her the injurious effect of severe or prolonged or too frequent strain. Again, you should find out if she is wearing tight corsets or anything tight round the waist or round the abdomen. Abdominal belts are often used by women under the impression that they require a support. But, as I have explained, whilst it supports the abdominal wall it prevents the natural yielding and hence a greater pressure is exerted upon the pelvic floor. Let them discard the abdominal belt, tight garments, tight stays, &c., and give the abdominal walls full play and they will be greatly relieved. Any cough should be remedied as far as possible and constipation should be attended to. Vomiting and retching must be cured or relieved as far as may be. If you find that the patient is in the habit of holding her urine too long, perhaps owing to the fact that to retire is inconvenient in her employment, you must tell her of its injurious effect upon the womb and advise accordingly. Roughly speaking, 13 ounces of urine are secreted every six hours and a working woman, at all events, should not go longer if she can help it during the daytime. If you find the uterus big and bulky through subinvolution you should try to lessen its size as much as possible by means of rest, hot-water vaginal douches, drugs (ergot, &c.), and if need be curettage. Astringent injections of alum, or sulphate of zinc, are useful in some cases where the vaginal mucous membrane is lax. Repairing the perineum is sometimes helpful in enabling a patient to keep in a pessary which would otherwise come out but it has little or no effect in preventing displacement. Similarly improvement of the general health by means of good food, fresh air, better hygienic surroundings, change of environment, tonics, &c., will help to give tone to the pelvic floor in those cases where it has been weakened by the causes mentioned.

The commonest displacement which requires treatment is prolapse of the uterus and this is nearly always combined with retroversion. If it is slight in extent it may be sufficient to get the patient to change her employment when you find her prolapse is due to hard work. If the prolapse be greater, or if she cannot change her occupation, then she must as far as possible avoid making matters worse, for which purpose let her wear nothing which would impede the natural free movements of the abdomen; let her avoid lifting heavy weights and fit her with a watchspring indiarubber ring pessary or with a Hodge's vulcanite or celluloid pessary. Sometimes you will find one and sometimes the other gives more satisfaction. The indiarubber ring pessary which I always use has not only a watchspring but also an outer chamber containing fluid (glycerine, &c.). I began to use them first in women after the climacteric when the vagina is more hyperæsthetic and hence less tolerant of pessaries. They were such a great success that I always use them now no matter what age the patient is and they are as great an improvement over the old-fashioned ones as a pneumatic tyre is over a solid rubber tyre. If the prolapse is of a still higher degree, and especially in those cases where the abdominal walls are intact and where hard work has to be done rendering the downward pressure very great, a cup-and-stem pessary will be found extremely useful. Of these the one that has seemed to me to answer the best is the red rubber Napier's cup-and-stem pessary. It is fastened in the usual way by tapes running forwards and backwards, tied to a waistband above as tightly as is needed. The rubber cup and stem yield to some extent during heavy work and so this pessary is more tolerated, giving less pain than rigid cup and stems such as those made of vulcanite. There are few cases even of procidentia that cannot be kept up in this way. I have known instances, however, where a Zwancke's pessary succeeded when a cup and stem failed. But a Zwancke's pessary should always be removed every night and replaced every morning, and here let me say that where an instrument is taken out every night and replaced every morning the bowels should be relieved whilst it is out. Over and over again I have been told by a patient that the instrument would not keep in and on inquiry it has been discovered that it came out during defæcation. Even vulcanite instruments are sometimes expelled during the act of defæcation. This can be prevented by pressure with the hand against the vulva during the expulsion of the stool. Repair of an extensively lacerated perineum will sometimes help in keeping an instrument *in situ*, although laceration of the perineum has little to do with the causation of prolapse of the uterus. For, on the one hand, you may find no prolapse at all, even with a perineum lacerated through the sphincter ani into the rectum, and, on the other, you may meet with prolapse in all degrees in a virgin when she has hard work to do or is the subject of chronic cough, &c. Anterior and posterior colporrhaphy are operations done largely to remedy cystocele and rectocele respectively but they also narrow the vaginal canal and thereby enable pessaries to succeed where they failed before.

And here let me say something about the material of which pessaries are made. A pessary is generally made either of indiarubber or of some polished material like vulcanite or celluloid or of metal. When made of rubber it soaks in the natural secretions and these then decompose and cause an offensive discharge. Therefore for the last 20 years I have never fitted one of these instruments without teaching the patient how to remove it and to re-insert it herself. If she does this often, and indeed it is far the best for her to do it every day—namely, to remove it when she goes to bed and to replace it when she gets up, for it is not required whilst she is in a horizontal position and it gives the parts a rest—she can keep the instrument perfectly clean by means of some antiseptic. Some patients leave it all night in a fluid antiseptic such as Condy's fluid, carbolic acid 1 in 60, boric acid lotion, and the like. This, however, tends to spoil the rubber and hence it is better to place it in an antiseptic solution for five or ten minutes and then to take it out and to dry it. Another advantage of taking out the pessary at night is that there can be no dyspareunia caused by the instrument and no other effect upon coitus. For it is fairly common to find either husband or wife complaining that it is in the way or causes pain and inconvenience and in a few instances I have known it cause the wife to lose the orgasm. A still further advantage is that less damage is done to the vaginal walls. An instrument that is kept *in situ* for months at a stretch may cause ulceration, especially if it be made of some hard material like vulcanite and almost certainly if it is at all too big or if the patient has a lot of hard work to do causing great and prolonged pressure. I have known a Zwancke's pessary cut its way into the bladder by gradual ulceration through this pressure. Had the instrument been removed this could not have taken place. I have also found a gutter of ulceration caused by a vulcanite Hodge pessary on each side of the vagina running from above downwards and produced by long-continued pressure of the sides of the instrument which was really too wide. Ulceration can hardly be produced if the pessary is removed every night and the special double-chambered indiarubber rings could hardly cause ulceration, even when left *in situ* for months. When a patient cannot remove a rubber pessary frequently she should try to keep it clean by frequent injections of some antiseptic lotion, like hot boric acid lotion. Smooth polished vulcanite, metal, or celluloid instruments need not be removed frequently. They can be left three months or more so long as they are comfortable, except certain kinds, such as Zwancke's pessary, which, however, is seldom, if ever, used nowadays. When opportunity offers it is a good plan to remove a pessary for some days if the patient is able to rest and she can have it replaced when she gets about again. In all forms of Hodge's pessary the framework should not be too thin as it is apt then to cause pain. The vulcanite of which it is made should be of the same thickness or thereabouts as a No. 10 Hegar's dilator—i e., with a diameter of ten millimetres. Polished vulcanite ring pessaries are not nearly so comfortable as the two-chambered rubber pessaries. Moreover, they are painful to insert and to remove inasmuch as they cannot be compressed during their entrance or exit through the vaginal orifice. Aluminium is the commonest metal used nowadays for making pessaries; as a rule they are less comfortable than those made of vulcanite. For one thing they are generally made too thin. Disc pessaries, with or without a stem for the purpose of removal, are sometimes more efficient, especially in elderly women with cystocele, than ordinary ring pessaries.

The next most common displacement requiring treatment is retroflexion of the uterus. This is nearly always combined with retroversion and not infrequently with prolapse as well. Moreover, it may be complicated with more or less diminution of the mobility of the uterus as a whole, and with more or less diminution of the natural flexibility of the uterine tissue. For example, after the climacteric period the tissue becomes less muscular, more fibrotic, and less capable of flexion and therefore no attempt should be made as a rule to rectify the retroflexion in such women. Moreover, the lessening of the size of the uterus by the natural atrophic changes renders such rectification superfluous

Where the uterus is more or less fixed an attempt should be made to get it looser by various means before any trial is made to rectify the displacement. For this purpose hot water vaginal douches are most excellent It may be necessary to keep the patient at rest in bed for several weeks douching her two or three times a day with not less than four quarts of water, each time beginning at a temperature of 110° F. and working up to 115° or, if possible, to 120°. A course of mercury taken internally or some ointment of oleate of mercury rubbed into the skin above the groin every night will help to absorb some adhesions.

Where there is no impairment of the uterine mobility and where you have succeeded in obtaining sufficient mobility by appropriate treatment you can as a rule restore the uterus into a position of anteversion and anteflexion by digital effort alone without the aid of instruments Formerly a uterine sound was used but this is very seldom required nowadays. The patient should be semi-prone in Sim's (not the pure lateral) position; then by gentle but firm pressure with the finger in the vagina, on the fundus uteri upwards and forwards and then on the front of the cervix backwards, you will succeed in most cases. When the reposition has succeeded fairly well you can often complete the restoration by the bimanual method—namely, passing the right hand between the thighs and so manipulating the fundus uteri through the abdominal wall whilst the left forefinger presses still on the cervix.

Another plan is to have the patient on her back and to use the right forefinger on the vagina and the left hand on the abdomen. You will also find that when you have got the fundus of the uterus slightly in front of the vertical line it will help you if you ask the patient to bear down as much as she can The increase in the intra abdominal pressure comes into play and drives the uterus forwards into anteversion, but this only acts when the uterus is sufficiently forwards to be in front of the vertical line, and during the time she is bearing down the finger in the vagina should be passed well up into the anterior fornix and should press the cervix uteri backwards and a little upwards In this way you will in many cases succeed in restoring a retroflexed uterus into a position of anteversion and anteflexion. You should then fit her with a Hodge's pessary The best pattern is one with a convex upper end and a straight lower end, though the angles at the end of this straight lower end should be rounded off. Moreover, the vulcanite should not only be smooth and polished but also should be thick. If it is thin it is apt to hurt, whereas if it is as thick as a No. 9 or 10 Hegar's dilator—that is, a diameter of nine or ten millimetres—it is less likely to hurt. These Hodge's pessaries are made not only in many different shapes but also with many different curves. Doubtless you know them well but on the table are a few examples of different kinds. The one I like best, because it seems on the whole the most comfortable, has a convex upper end, a straight lower end with the corners rounded off, a deep upper curve with the concavity forward, and shallow lower curve with the concavity backward when *in situ*. These pessaries are made in different sizes and each increase in length is accompanied by an increase in width. But for nulliparæ and unmarried women it is necessary as a rule to have special instruments made which, whilst longer, retain a narrow width. Sometimes you will find it necessary to alter the curves and this can be done best by softening the instrument where the increased bend is to be made by dipping it in oil and then moving it to and fro through the flame of a spirit-lamp, taking care not to burn it, which is best avoided by keeping it well oiled. At other times you find that though you get the uterus partially restored it is not in front of the vertical line. If you place a pessary in the vagina and let the patient go about you may find after a few days that the uterus is completely restored but in that case the pessary may be too loose in the vagina and so you can put in a larger one.

In the fitting of all pessaries it is a golden rule that the forefinger should be able to pass fairly easily between the side frame of the pessary and the vaginal wall at any part. If not it is too wide and if it can be passed too easily it is too narrow. Faults in length are estimated usually by the amount of projection of the lower end which ought always to be within the vagina posterior to the plane of the pelvic outlet. In cases where the anterior vaginal wall descends with greater force than usual and drives an otherwise well-fitting instrument too low down so that it slips under the pubic arch it may be necessary to curve the lower end more forwards and sometimes to have the lower end made of much thicker material and in the worst cases the patient may require to wear a perineal pad as well. Indeed, in many cases you will find it advisable to tell your patients to put on a well-fitting diaper or other perineal and vulval support when they know they are going to do something which will for the time greatly increase the intra abdominal pressure; for example, if they are about to do some heavy work, or play tennis, or golf, or go cycling, dancing, hunting on horseback, &c.

Some cases of retroflexion require a very deep upper curve and occasionally either no lower curve or with the lower end curved forwards. In the last mentioned case the instrument is crescentic in shape and such a pessary is especially useful where there is some prolapse on bearing down of the anterior vaginal wall and bladder as well as the retroflexion It may be necessary to have such a pessary made with a very thick lower end in order to make it comfortable to the patient. Without altering the curves or the thickness transverse bars may be placed at the lower end, thus supporting the anterior vaginal wall. I need hardly remind you that a Hodge's pessary acts as a lever of the first kind, the fulcrum being in the middle, the power at one end, and the weight at the other. No part of the uterus should touch the pessary. During strain the anterior lower bar is forced down more powerfully than the upper convex end which lies in the posterior fornix and hence this upper end moves upwards, the pessary turning a little on an imaginary axis running transversely. So long as this upward force is sufficient to prevent the uterus retroverting so as to get the fundus behind the vertical line the instrument keeps the womb in good position. Sometimes a ring acts similarly as a lever and is more easily tolerated than a Hodge's pessary.

One of the difficulties met with in treating a retroflexion of the uterus is where it is complicated with prolapse of one or both ovaries. Sometimes restoration of the uterus lifts the ovary or ovaries sufficiently out of the way or they can be pushed out upwards with the finger and in some cases although no difference is made yet the patient is quite comfortable. At times, however, the pain caused by the pressure of the upper end of the pessary on the prolapsed ovary cannot be tolerated. You can sometimes remedy this by having the convex upper end made straight or even concave, or one-sided—that is, one side higher than the other. In other cases you are obliged to resort to a soft rubber ring, which does not always remedy the retroflexion and retroversion but may keep the uterus up at such a height as to relieve symptoms. In a few cases, however, no instrument can be tolerated and it may be necessary to discuss operative treatment. In some cases you will find that although the uterus remains more or less retroflexed, the back of the body or fundus uteri resting against the top of the pessary or to one side of it, yet the patient is quite comfortable. If a patient becomes pregnant whilst wearing a ring or a Hodge's pessary it should be removed at the end of the fourth month of gestation. For by that time the uterus is so large that it cannot be driven into retroflexion and so there is no need for the support. Cutter's pessary, which I pass round for your inspection, is effective but has the drawback of an external band. Yet if the ordinary Hodge's pessary fails to keep up the uterus which has been retroflexed it is worth while trying Cutter's instrument.

Prolapses of the vaginal walls are very common and they are associated as a rule with uterine displacement. They can be treated with ring or red rubber cup-and-stem, Hodge's, or cradle pessaries. Hodge's, with specially thick ends or with an upward curve of the lower end or with transverse bars, are useful. Pessaries with a lower end something like the prow of a gondola are at times efficacious. Your ingenuity will often be taxed to find a pessary which is both comfortable and efficient.

Most authorities are agreed that the natural position of the uterus is a state of anteversion with slight anteflexion. Where the anteversion is excessive, and particularly when it is combined with enlargement of the uterus as in subinvolution and with some prolapse, it may cause symptoms which can in most instances be relieved by some form of pessary, of which the best I know is Galabin's cradle pessary. But a ring pessary is often quite successful in relieving symptoms.

Excessive anteflexion is, as a rule, congenital and requires no treatment for itself. It is often associated with, though not necessarily the cause of, dysmenorrhœa and sterility, but the condition is not one that is best treated by pessaries. Indeed, no form of pessary is likely to remedy the defect except an intra-uterine stem pessary and this is so objectionable from many points of view that it is nowadays used by very few, if any. Moreover, when the stem pessary is removed the uterus is apt to return gradually to its former condition.

Lateriflexion and lateriversion when co-existing with retroversion and retroflexion can generally be remedied by the same means as are adopted for the latter. If they are pure lateriflexions and lateriversions they are usually associated with some conditions such as parametritis and perimetritis or some pelvic tumour and they should not be treated by pessaries.

Pessaries may be used to prevent dyspareunia in certain cases. Naturally it is the cradle pessary that is most useful. Galabin's anteversion pessary is the best form I know as, unlike Graily Hewitt's and others, it has no anterior bar and hence is not in the way. Again, a pessary may help to cure sterility, especially in those cases where all the semen, or most of it, is expelled from the vagina immediately *post coitum*. This is due to elastic recoil and spasm and the pessary prevents the walls coming into contact and so allows a larger amount of the seed to b retained. When a retroflexed uterus is restored into normal position and kept there by means of a Hodge' lever pessary impregnation sometimes follows where ther has been sterility previously.

I hope sincerely that after what I have told you to-day abou the way in which uterine displacements are produced an the way in which they can be remedied, by going carefull into each case, finding out the cause and putting a stop t it, or at all events minimising it as far as you can by restoring the part as far as may be to its normal position, b fitting a suitable pessary, and by teaching the patient how to manage it herself when possible, you will find very few cases left for operative procedures. Moreover, if you ge your patients to follow the instructions I have sketched ou you eliminate one of the chief objections to their us namely, that they become foul and set up, or keep up, discharge and that they interfere with married life.

Women who derive benefit from the use of pessaries sometimes ask if they will ever be able to do without them. In certain cases of retroflexion when the uterus has been restored and kept in a normal position by a suitable pessary for a time, say a year or more, it is found on removing the instrument that the uterus no longer falls back into misplacement. This is especially so in those cases where you are able to detect the kind of muscular effort which has produced it, and to get the patient to avoid such effort. In some cases of prolapse the patient is able to do without a support ultimately. But no doubt there are many cases where she cannot dispense with it without a recurrence of the trouble.

There is one great advantage in trying to relieve women who suffer from displacements by means of pessaries—namely, that it is, to-day, a treatment that is absolutely free from danger to life; there is no mortality, and it is for that reason, as well as because it has been my experience to meet with few cases in which complete failure occurs, that I am strongly advocating a patient trial of pessaries before resorting to operative procedures which even in the best of hands have a slight immediate mortality, which in itself, apart from other objections, renders it necessary to have very weighty reasons for recommending and carrying out such operations. One writer has said that the day of pessaries is over. I do not think so. On the contrary, I think that they will be used more frequently as the rank and file of the profession come to understand more clearly the principles of their action.

ABSTRACT OF

An Address

ON

INSANITY AND MURDER.

Delivered before the Medico-Legal Society on May 8th, 1906,

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MR. PRESIDENT AND GENTLEMEN,—I do not propose in this paper to discuss the legal question as to what constitutes insanity of such a degree that the prisoner is spared the extreme consequences of the act and therefore I shall not enlarge upon such subjects as knowledge of right and wrong, the points laid down in McNaughten's case, the question as to what extent of responsibility remains in an insane person, and the knowledge of the individual that he was doing an illegal act. My object is directly concerned with the plan of procedure in murder trials and, whilst acknowledging that under the present process the truth is generally arrived at in the end and justice is satisfied, I contend that the mode of procedure is, not always but sometimes—often indeed—just the reverse of what it should be in that it first condemns the prisoner and then reprieves him on the ground of insanity, that it is illogical to come to a conclusion and then find that one of the necessary predicates (a sound mind) has been incorrectly estimated, and that it is undignified to go through the severe and solemn procedure of a trial as now conducted when there is good ground for knowing that the chief person interested is of unsound mind and is unfit to give evidence on his own behalf.

I am not of those who affirm that all people who commit murder are insane, either at the time of committing the deed or at the time of trial. There are murderers of sound mind who for reasons apparently vital to what they conceive to be their own interests deliberately compass and bring about the destruction of their victims; there are others who under temporary emotional excitement commit violent assaults which may or may not result in murder; these, too, may be of sound mind, but I contend that in all cases of murder the state of mind of the accused should be ascertained before the trial commences, and if it appears that the prisoner was at the time of committing the act of unsound mind or that he is so at the time of trial then the judge should use his discretion as to whether he will allow the prisoner to plead, but that if otherwise—i.e., if the prisoner is declared to be of sound mind—the trial should go on as usual.

Fear of the death penalty is so strong in this country that it is probably true that many wicked, but sane, people are thereby deterred from murder, hence there is *primâ facie* ground for believing that when one person kills another he is at the time insane and irresponsible and surely this question is of prime importance—is, in fact, the very one on which the result of the trial, the verdict, and sentence should turn, for what is the use of pronouncing the extreme penalty of the law which is afterwards commuted because a condition is found to be present which was not fully appreciated during the trial and which therefore made it impossible to place the facts in their right bearing?

With all due respect I contend that the question of the insanity of a prisoner is one that can only be settled by sworn and unbiased medical evidence, that it is not one that can be left to a jury to determine, and that the question of responsibility in the case of an insane person has no standing because if it is once established that the prisoner is insane the fact of responsibility thereby does not exist. Insanity and responsibility cannot be considered together. There are, of course, degrees of insanity and it may be admitted that many acts of people in whom the signs of insanity are slight are apparently in no degree different from those of sane people, but most murderous acts are based on strong *emotional* foundations and it is just in this element of emotion that the resistance of the insane person is lessened, because emotion is one of the most important constituents of voluntary action. To the non-medical mind the fact that a certain degree of responsibility is accorded to even the inmates of asylums seems to be sufficient for arguing that these people are altogether responsible, whereas a clinical acquaintance with the insane shows that they are not to be trusted and that even the slight confidence at times placed in them is apt to be rudely abused. Practically such slight amount of responsibility as is placed upon them is done with an acceptance of the risk and if anything untoward occurs one is not surprised. Over and over again it comes to pass that fatal occurrences happen in those who being most trusted show how delicately balanced is their modicum of stability and how misplaced has been the confidence. At this moment there are numbers of insane persons going freely about in the community and their relatives and friends know it, but owing to false ideas about the stigma of insanity or to pecuniary or other considerations the knowledge of the condition of the member of the family is kept secret or is disavowed. Let, however, some serious moral *lâche* occur involving legal consequences and the friends at once fly for protection to the ægis of lunacy, and therefore set up distrust in the plea; for why, it is asked, have they up to the psychological moment scoffed at what they now so eagerly press. It is really unfair and unfortunate that when a fault has been committed and no excuse can be found nor yet the guilt denied the plea of insanity should be raised as it so often is, because it is based on the false premiss that all crime is due to insanity, whereas the truth is that only some crime is due to it. There is an excusable repugnance to receiving the plea of insanity for prisoners from people who have all along repudiated the existence of such a condition but who ultimately introduce it as a *pis aller* and urge it with the utmost pertinacity. Why, people say, was this person allowed to mix freely with social surroundings when it was known that he was privately understood to be *non compos*, and yet no measures were taken to protect society? True, but though that may be a reason for blaming the friends of the prisoner it cannot apply to the prisoner himself who could not be expected in the circumstances to compass his own salvation.

I remember on one occasion giving evidence before Mr. Justice Hawkins (now Lord Brampton) on the condition of mind of a young man accused of murdering his mother. There was no doubt about the facts of the murder but the trial must have been of the least possible interest to the prisoner (who was allowed to plead), for he stood in the dock all the time in a condition of acute stupor, quite oblivious to what was passing, and it was not until a late stage in the proceedings that evidence as to the state of mind was called. Instead of occupying nearly two days the whole proceedings might have been settled in an hour if evidence as to the mental condition had been called at once, for the facts of the prosecution were not denied.

I contend that in all trials for murder the state of mind of the prisoner should be first of all inquired into; if he is declared insane the course of the trial would be modified, if declared to have been at the time insane but in good mental health at the time of the trial the facts should be so stated and the usual course pursued. When we know that we have to deal with a sane or an insane person the ground is at once cleared and unnecessary evidence done away with, the verdict follows in due course and is accepted as final, the jury is not placed in the false position of having to determine whether they conclude the question of insanity to be proved or not, and they are saved the responsibility of having to decide such abstruse questions as to how far the knowledge of right and wrong can be admitted as extenuating circumstances.

What is the present procedure? It is by no means the same in all cases. I allow that in some instances it is the custom to send experts to examine the state of mind of the prisoner whilst he is in prison awaiting trial but this is not the invariable rule and even then the conclusion arrived at is not announced at the commencement of the trial, the prisoner being all the time treated as if he was quite sane. In other cases there is no evidence as to the state of mind of the prisoner; the friends, perhaps, are too poor to afford expert testimony or counsel may prefer to trust to the chance of circumstances and the weakness of the clue to obtain a favourable verdict for his client, and it is not until after the trial when an adverse verdict has been given that the question of mental adequacy is raised with a view to commutation of the sentence. It may be said that in all cases the prisoner has during his detention previously to the trial been under the care of the surgeon to the gaol, but whilst acknowledging the independence and the great experience in criminality of the surgeons to prisons they have not all had that clinical knowledge of the insane which is a *sine quâ non* for the true estimation of these difficult questions. I know of one instance in which two men were placed on their trial for a murder committed in very trying circumstances—there was no medical doubt that the conditions which existed at the time when the act was committed were such as to warrant the statement that they were at the time in such a degree of mental impairment that they did not actually understand the responsibility for what they did, but on their trial the counsel for the defence refused to have the plea of insanity brought forward for fear lest they should be sent to Broadmoor; there was no dispute as to the facts but they preferred to run the risk of an adverse verdict to incarceration in a criminal lunatic asylum. They were, as a fact, sentenced to a short term of imprisonment, but most people thought that they should not have been imprisoned at all nor would they in all probability have been if the medical facts had been properly presented at the trial.[1]

It may be argued that the object of the trial is to determine whether or not the prisoner actually committed the offence with which he is charged and that the question of his sanity or insanity has nothing to do with this, and that on any ground it would be wrong to refuse the prisoner a trial because even if insane he might be proved to be innocent of the offence. In the first case, if the prisoner (as often happens) was caught *flagrante delicto* the advantage of authoritative opinion as to his state of mind is evident; if insane he should not be allowed to plead and he would be sent to Broadmoor; if not insane the issue is cleared and the result arrived at without any complication of psychological arguments. In the second objection—i.e., that though insane the trial should proceed in order to prove that he did or did not perform the deed of which he is accused—the fact of his insanity being known is important because it materially affects the whole course of the trial—in this way, that it prevents the conflict of medical evidence which so often occurs when the question of sanity has to be determined later in the course of the trial. There should be no conflict of this kind. The question is a matter of fact, not one to be determined by puzzling and often irrelevant questions placed before medical witnesses in cross-examination by legal experts skilled in dialectics and naturally anxious to have the best of an argument which is counter to their objects. The book knowledge shown in these cross-examinations is perhaps a testimony to the skill of counsel in mastering the superficialities of a very technical subject but it is not the way to elicit the truth and it cannot be too strongly urged that mere book knowledge and a display of pure metaphysical subtleties are quite inadequate for the present purpose which is the determination by *clinical* experience of the mental state of the accused.

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[1] Case of the *Mignonette*, Reg. v. Captain Dudley and Stephens (1884), 14 Q. B. D. 273.

Once the question of the state of mind of the accused is determined all appeals to mere sentiment are knocked out of the case; there is no conflict of medical opinion, there can be no impassioned appeal to the jury to give the benefit of the doubt to a person who has been voted sane by one side but insane by the other, the issue becomes a strictly legal one based on facts and the knowledge that to some extent the result of the trial is thus early determined does not in any way affect the legal question as to whether the prisoner actually committed the deed or not, but it does materially settle the question of responsibility and of the exaction of the extreme penalty.

If a prisoner awaiting trial is examined with reference to his sanity the question may be raised as to whether a true result can be arrived at without improper reference to the crime of which he is accused. There would seem to be a danger here either of obtaining a confession from the prisoner in an unorthodox way or of even suggesting a circumstance which he, being insane, might lay to his own charge, though it was really an error. This objection falls to pieces when it is remembered that it has already been adjudged that he is at least a suspect if he has not been actually guilty of the deed, and there can surely be nothing improper if it be necessary in the course of examination to refer to what has already been openly commented upon and which has been made a charge of which, unless he is profoundly insane, he must be conscious. Moreover, if the friends of the accused wish to set up during the trial the plea of insanity and to produce their own medical evidence for it the prisoner has to be seen and examined before the actual trial by a specially retained medical man whose very examination might suggest a line of conduct to be pursued, unconsciously biased as he might be in the interests of the side on which he has been engaged. Whilst in some cases it is quite easy to determine the state of mind of the prisoner it is in others extremely difficult and it may require a considerable time for its elucidation, because not only has the previous life-history but also the medical history of his ancestors to be ascertained, and it might in some circumstances be necessary to postpone the trial if the medical experts were not satisfied that they had come to a right decision—a much safer proceeding than waiting until after sentence has been pronounced for an expert examination, where there might not be sufficient time for an exhaustive inquiry.

Being anxious to adduce all the arguments that might be brought against my proposition I suppose that some might contend that the demeanour of the prisoner during the trial is important as a sign of his sanity or insanity and that therefore the medical examiner's evidence should be introduced only at the end and as an excusing fact (or the contrary) after evidence on the main point has been given. Such an argument would not be clinically correct, because an insane person may be quite orderly and to all appearances sound during the trial and may comport himself as if actually *compos mentis* and yet he may be all the time very insane and really irresponsible. One thing I must add, I have never known the ordeal and anxiety of a trial cause insanity—if a prisoner is found after sentence to be insane he was almost certainly *so* before. It is not impossible to conceive that the tension and excitement of a trial might cause insanity, but I never heard of a case in which it has been shown.

But medical men are not infallible and psychology is not an exact science. Many differ on the question of responsibility in insanity, some affirming that to a limited extent the insane may be responsible for what they do, others denying the power of fixing responsibility on them because (they say) we have no means of gauging to what extent, if even at all, an insane person is responsible. It is best to assume that when once found to be insane the question of responsibility must be treated as impossible and therefore must be left out, to some extent giving the prisoner the benefit of the doubt. No one can foretell what an insane person will do and the fact of his being only slightly insane is no criterion as to his actions. The one thing to determine is the question of sanity; the next question is how is this to be done? I suggest that in all trials for murder the prisoner shall be at once examined by Government experts, who shall at the inception of the trial give their sworn opinion on the state of mind of the prisoner and that sworn statement should be final, no subsequent evidence on this point being admitted. The subsequent proceedings will be in the hands of the judge who will direct their course as he deems fit. If the prisoner is found guilty of the deed he will be sent to the criminal asylum; if not so found, but still found to be insane, he would be discharged to his friends, or if he has none he could be dealt with under the existing Lunacy Acts. From the legal point of view the fact of the insanity of the prisoner is a negligible quantity. What the law wants to find out is the doer of the act and to punish him. The medical element comes in and says the man is sane or insane, and this fact should have a great bearing on the course of procedure, for the knowledge of this fact not only prevents needless expenditure of time but safeguards the result of the trial and prevents the incongruity of coming to one conclusion in court and reversing it afterwards. There should be no antagonism between law and medicine in these matters, especially when the question is one of life and death. Both are anxious for justice to the dead and the living. Can the latter have justice if whilst really insane he is treated as though in full possession of his faculties? The court, being early possessed of the mental condition of the prisoner, would not allow the point to be argued in the course of the trial, thus obviating discussion and the introduction of controversial subjects of a technical nature by biased witnesses and relieving the jury of the burden of deciding upon evidence of an extremely technical nature, one for which they are quite unqualified. I cannot, moreover, but think that the judge himself would be rejoiced to be relieved of having to decide first the question of sanity or insanity, argued by medical witnesses of different standing and experience, cross-examined in a more or less involved way by counsel, whose knowledge is not clinical and is therefore incomplete, while he is also saved the apportioning of responsibility, because this question cannot clinically be determined in any case of proved insanity. No one can say to what extent a lunatic is responsible.

It might, perhaps, be thought unreasonable that a prisoner on trial for murder who happened to be of good social position and to be possessed of ample means should be denied permission to call expert evidence on his own side to rebut that given by the Government experts but there is no hardship in our proposal because it is much fairer for society which has to be protected and for the prisoner who also has his rights that skilled and unbiased opinion should be forthcoming to prevent a doubt which may always linger when the decision rests upon judgment between technical arguments which, with all due respect I venture to state it, a purely legal court is not always competent to give. In civil trials where technicalities of a very involved and complicated character are presented on opposite sides it is often difficult to determine the balance of conflicting evidence, but here the issue is not as important as in a murder trial involving the life of the prisoner and the jury in a civil trial may have among it members of special experience in the subject under discussion, but in a murder trial there is no medical man on the jury and no one to appreciate the balance of the conflicting medico-psychological problems often placed before them. Lunacy expert evidence is expensive and there are cases where it may not be considered necessary—cases where the presence of the disease is quite obvious, but even here the evidence of the surgeon of the gaol should be taken first and the fact of the insanity being allowed the principle we contend for is granted.

If expert evidence is not always successful in civil trials it might be argued that it is equally untrustworthy in criminal cases, but we must remember that it does not follow that because unsuccessful it was therefore wrong and that its very failure may have been due to doubts raised by inferior witnesses whose evidence had to be appraised by a tribunal untrained to distinguish between the true and the false indications.

The total number of criminal lunatics received into asylums in the year 1904 (for all offences) was 235, and of these 128 were certified insane while serving sentences in prison, and one cannot resist the conclusion that many, if not most, of them were actually insane at the time of the trial but that no evidence of it was produced, and therefore that to some extent it may be said that full justice was not awarded to the culprit. It is a serious matter to think that irresponsible persons have been convicted when the actual fact of their irresponsibility has not even been raised at the trial. How much more serious would this be if the possibility of such a lapse occurred in a trial for murder.

[The very full discussion which this paper produced, together with the opinion of the President (Mr. Justice Walton), will be fully reported in Vol. III. of the Transactions of the Medico-Legal Society, London.]

A Series of Lectures

ON

APHASIA.

Delivered before the Royal College of Physicians of Edinburgh

By BYROM BRAMWELL, M.D. EDIN., F.R.C.P. EDIN., F.R.S. EDIN.,

PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY, LECTURER ON CLINICAL MEDICINE IN THE SCHOOL OF THE ROYAL COLLEGES, EDINBURGH, ETC.

LECTURE III. (*Concluded*).[1]

DERANGEMENTS OF THE AUDITORY SPEECH MECHANISM; WORD DEAFNESS (CENTRAL, SUBCENTRAL, AND SUPRA-CENTRAL); PSEUDO-SUBCENTRAL AUDITORY APHASIA; TONE DEAFNESS (*continued*).

PICK'S case of subcentral auditory aphasia is also one of great interest and importance but it is by no means a simple or typical case; indeed, it presents some features which it is very difficult to explain. The details of Pick's case are as follows.—

Case of subcentral (subcortical or subpictorial) word deafness with necropsy (A. Pick)[2]—The patient, a man, aged 24 years, was admitted to hospital on Jan. 17th, 1891. There had been three separate cerebral attacks; the first, which occurred ten years before admission to hospital, caused a slight left-sided hemiplegia and a slight disturbance of speech, the second, which occurred four years before admission to hospital, also caused a slight aphasia, the third attack, which occurred three months before admission to hospital, caused mental excitement, but nothing was recorded to show that any motor, sensory, or aphasic symptoms resulted from it.

On the patient's admission to hospital the aphasic symptoms were typically characteristic of subcentral (subcortical or subpictorial) word deafness except in this one particular—viz., that the patient's intelligence was notably impaired. (This was only what might be expected because of the very extensive nature of the brain lesions which were found after death and more especially when it is remembered that *both* auditory speech centres were destroyed.) The patient could hear ordinary sounds, though his ability to hear ordinary sounds seems to have been markedly impaired, he was completely word deaf, he was unable to repeat spoken words, and he was unable to write to dictation. Spontaneous vocal speech was preserved, he understood written speech, he could read aloud, he could write spontaneously and he could name objects which were shown to him (*this was a most remarkable fact considering the nature of the lesions found at the necropsy*) His intelligence was weakened and his conduct was childish The patient died on May 12th, 1891 (after being four months under observation in hospital)

Necropsy—A symmetrical lesion was present in each temporo-sphenoidal lobe. The upper parts of both temporo-sphenoidal lobes were somewhat shrunken, softer than normal, and of a yellowish colour. On the right side the first temporo-sphenoidal convolution, a pretty large part of the second temporo-sphenoidal convolution, the whole of the island of Reil, and small circumscribed areas at the lower end of the ascending frontal and in the third frontal convolutions were softened and of a yellow colour. The white matter below the affected convolutions, the external capsule, the claustrum, and the external part of the lenticular nucleus were also the seat of yellow softening. On the left side the posterior part of the first temporo-sphenoidal convolution and the supramarginal convolution were the seat of yellow softening. In this hemisphere the softening was superficial and did not affect the external capsule or the central ganglia. On this side the island of Reil was intact.

It is very difficult, as Bastian has pointed out, to reconcile the clinical features of this case with the post-mortem findings. The symptoms were, with the exception of the intellectual impairment, typical and characteristic of subcentral (subcortical or subpictorical) word deafness, but the post-mortem examination showed that the posterior part of the temporo-sphenoidal convolution *on both sides* was destroyed; in other words, both auditory *speech centres* were destroyed and yet the patient could recall auditory speech symbols, for he could name objects which were shown to him, he could speak spontaneously, he could read (i.e., understand written speech), and he could read aloud. The only explanation seems to me to be one of the following: 1. That suggested by Bastian—viz., that the patient was a strong "visual"; in other words, that the visual speech centre was in this patient in direct connexion with the associated ("ideational") centres and was able to act either (*a*) directly upon the motor-vocal speech centre (i.e., without acting through the auditory speech centre) or (*b*) indirectly through the "ideational" centres. 2. That in this patient the kinæsthetic word memories were so firmly imprinted that they were capable of being independently revived in consciousness and of taking the place of auditory speech symbols in internal speech and thought and in the regulation and emission of vocal speech—in other words, that in this patient the vocal speech centre (the glosso-kinæsthetic word centre, as Bastian terms it) was in direct connexion with the associated ("ideational") centres, that the revival of the kinæsthetic word memories could in the absence of auditory speech symbols be made use of for the purposes of internal speech and thought, and that the "ideational" centres could directly play upon the vocal speech centre and so enable the patient (in the absence of the auditory speech centre) to speak and to write. 3. That the destruction of the auditory speech centre was incomplete. This is, perhaps, the most probable explanation. And in this connexion it must be remembered that we do not know the exact extent of the auditory speech centre; in some persons, it is perhaps much more extensive than in others; it is not improbable that, in some persons, the portion of the temporal lobe, which Bastian calls the "*annex*" of the auditory speech centre, is in reality a part of the auditory speech centre, or that, as the result of the process of compensation, this annex of the auditory speech centre can, through its connexions with the visual speech centre take up and carry on, in some degree at least, the function of the auditory speech centre (in this case enable the patient to name objects which are shown to him). And in support of this supposition I may point out that the patient was young, aged 24 years, and that the lesion was of long standing (ten years on the right side, four years on the left side); the conditions for compensation, therefore, so far as the age of the patient and the duration of the lesion are concerned, were very favourable. But although it is very difficult to reconcile the clinical symptoms with the post-mortem findings, and to explain the patient's ability to speak spontaneously, to read, to read aloud, and to name objects which were shown to him, when it is remembered that the lesion had destroyed *both* auditory speech centres (i.e , those parts of the brain cortex which are usually supposed to represent the auditory speech centre on both sides of the brain), the case at all events shows, as the case reported by Déjerine and Sérieux also shows, that the clinical symptoms characteristic of subcentral word deafness are (usually) due to a bilateral lesion involving both auditory centres.[3]

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[1] Lectures I and II and the first part of Lecture III. were published in THE LANCET of Jan. 13th (p 71), Feb 10th (p 351), and June 16th (p. 1671), 1906, respectively.

[2] Archiv für Psychiatrie, Band xxiii., 1891, p. 909

[3] This case is an important illustration of the fact which is so frequently met with in cases of aphasia—viz , it is often difficult to reconcile the lesions which are met with after death with the symptoms which were present during life. Cases are sometimes met with in which very extensive lesions involving the speech centres are found after death, in which there were few or no marked aphasic symptoms noted during life, the auditory speech centre may, for example, be destroyed and there may have been no word deafness. the motor-vocal centre may be destroyed, and there may have been little or no motor aphasia. I will afterwards refer to cases of this kind in more detail. Cases of this kind show how difficult it often is in cases of aphasia to predict the exact seat, nature, and extent of the lesion. When the aphasic symptoms are typical and well marked there is usually no such difficulty. Exceptions to this statement do, however, occur; a remarkable case has recently come

The position of the lesion in cases of subcentral auditory aphasia.—Theoretically, then, we may assume that the subcentral (subcortical or subpictorial) form of auditory aphasia may be due to: (1) a bilateral lesion which involves but which does not completely destroy *both* lower auditory centres, and as a matter of fact this was the nature of the lesion in Déjerine's case; (2) a bilateral lesion which destroys (or interrupts the conduction through) *the fibres* passing from *both* lower auditory centres to the (left) auditory speech centre; or (3) a unilateral lesion in the left hemisphere which destroys *the fibres* which pass *from both* lower auditory centres to the (left) auditory speech centre.[4]

We can now understand why cases of subcentral (subcortical or subpictorial) auditory word deafness are so rare, for in the first place cases are extremely rare in which a bilateral lesion involves both lower auditory centres or the fibres which pass from both lower auditory centres to the (left) auditory speech centre *and which is limited to these parts*—i.e., which does not at the same time involve the (left) auditory speech centre itself. The left lower auditory centre, as I term it, is directly continuous (anatomically) with the auditory speech centre (the higher auditory centre). This is a very different arrangement from that which obtains the case of the lower and higher visual centres—the wer (half vision) visual centres (situated in the back art of the occipital lobes) are widely separated (anaomically) from the higher visual centre (visual speech entre), which is situated in the angular gyrus and peraps adjacent part of the supramarginal convolution.[5] n the second place, it is almost impossible for a lesion on he left side of the brain completely to isolate the left uditory speech centre from the parts below it (i.e., from oth lower auditory centres), *without at the same time volving* the auditory speech centre itself *or* the connecting fibres which pass *from* the auditory speech centre to the parts of the cerebral cortex other than both of the lower auditory centres—i.e., to the associated ("ideational") centres. It is very different in the case of subcentral (subcortical or subpictorial) word blindness; a single lesion in the left hemisphere can easily, and frequently does, involve the tracts which pass from both half-vision centres to the visual speech centre; hence the much greater frequency of subcentral word blindness. I will return to this point when I come to speak of visual aphasia. In the third place, in those cases in which the lesion is chronic, compensation may be effected by the auditory speech centre in the right hemisphere taking up and carrying on the auditory speech function. A lesion which involves the fibres which pass from both lower auditory centres to the left auditory speech centre need not necessarily involve the fibres which also pass from both lower auditory centres to the *right* auditory speech centre. Hence, if the auditory speech symbols cannot get to the left auditory speech centre, they may get to the right auditory speech centre; and there is reason to suppose that the right auditory speech centre in most persons readily takes up and carries on, in some degree at least, the function of the left (active) auditory speech centre when that centre is destroyed.

As we shall afterwards see, the visual speech centre in the right hemisphere is very rarely able to take up and carry on (or perhaps it would be better to say is much less capable of taking up and carrying on) the function of the left visual speech centre when it, the *left* (active) visual speech centre, is destroyed. This is another reason why subcentral visual aphasia is so much more common than subcentral auditory aphasia.

PSEUDO-SUBCENTRAL AUDITORY APHASIA.

Before leaving the subject of subcentral (subcortical or subpictorial) word deafness I should add that some writers have suggested that this form of auditory aphasia may be due to disease in the end-organs of hearing. It is said that disease of the end-organ of hearing may interfere with the patient's ability to understand speech sounds, while it does not interfere, or much less markedly interferes, with his ability to hear ordinary sounds. Freund has reported a case of this kind,[6] but I very much doubt whether cases of this description should be considered as cases of auditory aphasia. The details of Freund's case are as follows:—

Case of pseudo-subcentral auditory aphasia (Freund).[7]—A man, aged 22 years, after a severe attack, which was diagnosed as epidemic cerebro-spinal meningitis, suffered from vertigo and disturbance of equilibration and impairment of hearing. Five months after the beginning of the illness his condition was as follows. Hearing was markedly impaired. The patient was completely deaf in the left ear. With the right ear he could hear and intelligently differentiate ordinary sounds, such as whistling, snapping of fingers, clapping of hands, the notes of a violin, a piano, &c. Sounds could be heard in the right ear when not too low, but they were not properly interpreted. High toned sounds, such as those of a tuning fork, were entirely unperceived in the right (hearing) ear, either when conducted through the air or the bones of the skull; the patient was, however, sensible of the mechanical vibration. A few vowels, such as *a* and *e*, could be heard when they were shouted into the ear. He could correctly understand a few words. As he expressed it, "I hear only the tone of the words and I then must think what they can be." He had good perception of the number of syllables in spoken words; he could readily differentiate words, such as "December" and "June," which were dissimilar in sound, but he was often unable to differentiate words, such as "December" and "September," "June" and "July," which were similar in sound. But he was almost entirely unable to understand spoken words and to write from dictation. Spontaneous speech was intact; the patient was loquacious, there was no paraphasia, the voice was harsh and rasping; he could hear himself talk but the words were not clearly and distinctly heard. When eating he always heard the grinding noise of the teeth. There were no word blindness and no disturbance of vision, motion, or sensation. The absolute deafness in the left ear, the diminished bone conduction and loss of perception for high tones in the right ear, and the normal condition of the ears on otoscopic examination showed that the deafness was not due to middle-ear disease but that it was due to bilateral disease of the internal ear.

That there may in some cases be considerable difficulty in differentiating such cases (for which I suggest the term "pseudo-subcentral" auditory aphasia) from cases of subcentral (subcortical or subpictorial) word deafness due to a cerebral lesion I can quite conceive, just as there may be considerable difficulty in distinguishing some cases in which there is an articulatory defect due to a (bilateral) lesion

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nder my notice in which marked and persisting aphasic symptoms word deafness, word blindness, agraphia, and, to a lesser degree, motor ocal aphasia) were present for at least two months and in which no ross lesion was detected after death in any of the speech centres (the rain has not as yet been examined microscopically). But in the everse case—i.e., where the symptoms are slight and not well marked— is often hazardous to predict that there is no marked and extensive sion. Cases of this (apparently anomalous) kind may be explained n one or other of the following ways—viz., (1) by supposing that the orresponding speech centres in the opposite hemisphere take up and arry on the functions of the speech centre which was destroyed, or 2) that the lesion is less complete than it appears to be; or (3) that he speech centre which was destroyed was in the particular individual n question more extensive than in normal individuals. Further, in ther cases the compensation is no doubt effected in other ways. The atient may be a strong "visual," a strong "auditive," or a strong "kinæsthetic," and the visual, auditory, or kinæsthetic speech centres may in some degree, so far at all events as the processes of internal speech and thought are concerned, take up and carry on the function of the special centre which was destroyed.

[4] I am speaking of right-handed persons; in left-handed persons the lesion would, of course, be in the right hemisphere.

[5] A. W. Campbell places the visuo-psychic centre in anatomical continuity with the visuo-sensory centre. If I understand him rightly he thinks that the visual speech centre (which, it is generally supposed, is situated in the angular gyrus) is situated farther back—i.e., in the visuo-psychic area. In speaking of word blindness (alexia), he says: "Clinically, many degrees and varieties of this affection may appear, but fortunately there is almost unanimous agreement concerning its pathological anatomy. In ten or more cases which have been carefully examined (those of Monakow, Redlich, Verrey, &c.) the surface lesion has been confined to the region of the left angular gyrus and the second occipital convolution, and usually has spread sufficiently deeply into the underlying white substance to include the fasciculus longitudinalis inferior, an important band of fibres the connexions of which we shall have to mention presently. And although, in some instances, other bands—viz., the fasciculus longitudinalis superior, the occipito-thalamic radiations of Gratiolet, the forceps major, and in a few cases fibres pertaining to the splenium of the corpus callosum—have been involved, the stress of the injury seems always to have fallen on the band first alluded to. Also it is becoming an established doctrine that destruction of the cortex in the region of the angular gyrus by itself, or of the fasciculus longitudinalis inferior by itself, is insufficient to produce alexia, the two must go together, and for the production of the clinical manifestation long and short systems of association fibres necessarily must be destroyed. ...... The fasciculus longitudinalis inferior—stratum sagittale externum (Sachs)—faisceau sensitif (Charcot)—constitutes a uniting band between the occipital and temporal lobes. Running in a sagittal direction it lies lateral to the optic radiations, and in the first part of its course is a massive and well differentiated bundle, but more anteriorly its fibres become confused with those emerging from the internal geniculate bodies, and with others in the thalamic region. However, it is the general belief that the majority of its fibres terminate in the temporal lobe, particularly in the first temporal convolution; it is an equally general assumption that it constitutes the main path of association between the visual and auditory areas, and that its destruction lies at the bottom of that variety of mind blindness which we have referred to under the name alexia. But here let me say that Flechsig dissents from the general belief, contending that the bundle consists of projection and not association fibres."—Histological Studies on the Localisation of Cerebral Function, pp. 139 and 142.

[6] A case of subcentral auditory aphasia in which, however, the position of the lesion was not determined by post mortem examination, reported by Helot, Houdeville, and Halipré (Revue Neurologique, tome iv., 1896, p. 353), is considered by Déjerine and Sérieux to belong to the same category but I cannot see, after carefully studying it, that there are any sufficient grounds for such a conclusion.

[7] Labyrinthtaubheit und Sprachtaubheit, Wiesbaden, 1895.

it might be argued that it is equally untrustworthy in criminal cases, but we must remember that it does not follow that because unsuccessful it was therefore wrong and that its very failure may have been due to doubts raised by inferior witnesses whose evidence had to be appraised by a tribunal untrained to distinguish between the true and the false indications.

The total number of criminal lunatics received into asylums in the year 1904 (for all offences) was 235, and of these 128 were certified insane while serving sentences in prison, and one cannot resist the conclusion that many, if not most, of them were actually insane at the time of the trial but that no evidence of it was produced, and therefore that to some extent it may be said that full justice was not awarded to the culprit. It is a serious matter to think that irresponsible persons have been convicted when the actual fact of their irresponsibility has not even been raised at the trial. How much more serious would this be if the possibility of such a lapse occurred in a trial for murder.

[The very full discussion which this paper produced, together with the opinion of the President (Mr. Justice Walton), will be fully reported in Vol. III. of the Transactions of the Medico-Legal Society, London.]

A Series of Lectures

ON

APHASIA.

Delivered before the Royal College of Physicians of Edinburgh

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LECTURE III. (*Concluded*).[1]

DERANGEMENTS OF THE AUDITORY SPEECH MECHANISM; WORD DEAFNESS (CENTRAL, SUBCENTRAL, AND SUPRA-CENTRAL); PSEUDO-SUBCENTRAL AUDITORY APHASIA; TONE DEAFNESS (*continued*).

PICK'S case of subcentral auditory aphasia is also one of great interest and importance but it is by no means a simple or typical case; indeed, it presents some features which it is very difficult to explain. The details of Pick's case are as follows:—

Case of subcentral (subcortical or subpictorial) word deafness with necropsy (A. Pick).[2]—The patient, a man, aged 24 years, was admitted to hospital on Jan. 17th, 1891. There had been three separate cerebral attacks; the first, which occurred ten years before admission to hospital, caused a slight left-sided hemiplegia and a slight disturbance of speech; the second, which occurred four years before admission to hospital, also caused a slight aphasia; the third attack, which occurred three months before admission to hospital, caused mental excitement, but nothing was recorded to show that any motor, sensory, or aphasic symptoms resulted from it.

On the patient's admission to hospital the aphasic symptoms were typically characteristic of subcentral (subcortical or subpictorial) word deafness except in this one particular—viz., that the patient's intelligence was notably impaired. (This was only what might be expected because of the very extensive nature of the brain lesions which were found after death and more especially when it is remembered that *both* auditory speech centres were destroyed.) The patient could hear ordinary sounds, though his ability to hear ordinary sounds seems to have been markedly impaired; he was completely word deaf, he was unable to repeat spoken words, and he was unable to write to dictation. Spontaneous vocal speech was preserved, he understood written speech, he could read aloud, he could write spontaneously, and he could name objects which were shown to him (*this was a most remarkable fact considering the nature of the lesions found at the necropsy*). His intelligence was weakened and his conduct was childish. The patient died on May 12th, 1891 (after being four months under observation in hospital).

Necropsy.—A symmetrical lesion was present in each temporo-sphenoidal lobe. The upper parts of both temporo-sphenoidal lobes were somewhat shrunken, softer than normal, and of a yellowish colour. On the right side the first temporo-sphenoidal convolution, a pretty large part of the second temporo-sphenoidal convolution, the whole of the island of Reil, and small circumscribed areas at the lower end of the ascending frontal and in the third frontal convolutions were softened and of a yellow colour. The white matter below the affected convolutions, the external capsule, the claustrum, and the external part of the lenticular nucleus were also the seat of yellow softening. On the left side the posterior part of the first temporo-sphenoidal convolution and the supramarginal convolution were the seat of yellow softening. In this hemisphere the softening was superficial and did not affect the external capsule or the central ganglia. On this side the island of Reil was intact.

It is very difficult, as Bastian has pointed out, to reconcile the clinical features of this case with the post-mortem findings. The symptoms were, with the exception of the intellectual impairment, typical and characteristic of subcentral (subcortical or subpictorical) word deafness, but the post-mortem examination showed that the posterior part of the temporo-sphenoidal convolution *on both sides* was destroyed; in other words, both auditory *speech centres* were destroyed and yet the patient could recall auditory speech symbols, for he could name objects which were shown to him, he could speak spontaneously, he could read (i.e., understand written speech), and he could read aloud. The only explanation seems to me to be one of the following: 1. That suggested by Bastian—viz., that the patient was a strong "visual"; in other words, that the visual speech centre was in this patient in direct connexion with the associated ("ideational") centres and was able to act either (*a*) directly upon the motor-vocal speech centre (i.e., without acting through the auditory speech centre) or (*b*) indirectly through the "ideational" centres. 2. That in this patient the kinæsthetic word memories were so firmly imprinted that they were capable of being independently revived in consciousness and of taking the place of auditory speech symbols in internal speech and thought and in the regulation and emission of vocal speech—in other words, that in this patient the vocal speech centre (the glosso-kinæsthetic word centre, as Bastian terms it) was in direct connexion with the associated ("ideational") centres, that the revival of the kinæsthetic word memories could in the absence of auditory speech symbols be made use of for the purposes of internal speech and thought, and that the "ideational" centres could directly play upon the vocal speech centre and so enable the patient (in the absence of the auditory speech centre) to speak and to write. 3. That the destruction of the auditory speech centre was incomplete. This is, perhaps, the most probable explanation. And in this connexion it must be remembered that we do not know the exact extent of the auditory speech centre; in some persons, it is perhaps much more extensive than in others; it is not improbable that, in some persons, the portion of the temporal lobe, which Bastian calls the "*annex*" of the auditory speech centre, is in reality a part of the auditory speech centre, or that, as the result of the process of compensation, this annex of the auditory speech centre can, through its connexions with the visual speech centre take up and carry on, in some degree at least, the function of the auditory speech centre (in this case enable the patient to name objects which are shown to him). And in support of this supposition I may point out that the patient was young, aged 24 years, and that the lesion was of long standing (ten years on the right side, four years on the left side); the conditions for compensation, therefore, so far as the age of the patient and the duration of the lesion are concerned, were very favourable. But although it is very difficult to reconcile the clinical symptoms with the post-mortem findings, and to explain the patient's ability to speak spontaneously, to read, to read aloud, and to name objects which were shown to him, when it is remembered that the lesion had destroyed *both* auditory speech centres (i.e., those parts of the brain cortex which are usually supposed to represent the auditory speech centre on both sides of the brain), the case at all events shows, as the case reported by Déjerine and Sérieux also shows, that the clinical symptoms characteristic of subcentral word deafness are (usually) due to a bilateral lesion involving both auditory centres.[3]

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[2] Archiv für Psychiatrie, Band xxiii., 1891, p. 909.

[3] This case is an important illustration of the fact which is so frequently met with in cases of aphasia—viz., it is often difficult to reconcile the lesions which are met with after death with the symptoms which were present during life. Cases are sometimes met with in which very extensive lesions involving the speech centres are found after death, in which there were few or no marked aphasic symptoms noted during life; the auditory speech centre may, for example, be destroyed and there may have been no word deafness, the motor-vocal centre may be destroyed, and there may have been little or no motor aphasia. I will afterwards refer to cases of this kind in more detail. Cases of this kind show how difficult it often is in cases of aphasia to predict the exact seat, nature, and extent of the lesion. When the aphasic symptoms are typical and well marked there is usually no such difficulty. Exceptions to this statement do, however, occur; a remarkable case has recently come

auditory speech centre acting upon the vocal speech centre. And if it be granted that spoken speech can be repeated (echoed) in either of these ways, it must further, I think, be granted that it is impossible to differentiate a case of complete *central* auditory aphasia, from a case of complete *supracentral* auditory aphasia in which echo speech is retained.

5. The patient would not be able to write to dictation. Some authorities—Lichtheim[10] and Wyllie,[11] for example—state that the patient would have no difficulty in writing to dictation (though they admit there would be paragraphia); but I venture to think that this is a mistake. It seems to me that in *complete* supracentral auditory aphasia exactly the same defects in writing would occur as in the central form of auditory aphasia, at least such would appear to be the case in the great majority of instances; for, as we shall afterwards see, in writing to dictation, the spoken words which first reach the auditory speech centre seem next to pass (in most normal individuals at least) to the visual speech centre, from which they flow to the writing centre in order that they may be emitted. In other words, in writing to dictation the nervous impulses seem to pass, *not directly* from the auditory speech centre to the writing (graphic) centre, but *indirectly through the visual speech centre.* In the supracentral form of auditory aphasia the writing impulses would be blocked in their passage from the auditory speech centre to the visual speech centre, while in the central form of auditory aphasia they are blocked in the auditory speech centre itself. But it is perhaps possible that, in some cases, there is a *direct* connexion between the auditory speech centre and the writing (graphic) centre (along the dotted line from A.S.C. to G.S.C.). If this were so, and if this connexion were unaffected by the lesion, the patient would be able to write to dictation. But if this occurs it must be very rare. The proof of its rarity is furnished by the fact that in the great majority of cases of *central visual* aphasia, in which the lesion is confined to the visual speech centre and in which the auditory speech centre and its connexions are quite intact, the patient is unable to write to dictation. Lichtheim and Wyllie perhaps base their opinion on the belief that in writing the emissive impulses pass to the graphic centre through the vocal speech centre. This opinion is, I believe, erroneous; I am of opinion that, in most individuals at all events, the emissive impulses concerned in the act of writing pass *directly* from the visual speech centre to the graphic (? speech) centre and not indirectly through the vocal speech centre. But, whether it is correct or not, it does not alter the fact that destruction of the visual speech centre abolishes the power of writing to dictation, in most individuals at least—a circumstance which shows that *in writing to dictation the ingoing impulses pass not from the auditory speech centre directly to the graphic speech centre but from the auditory speech centre to the visual speech centre*, from which they then pass either (*a*) directly, as I believe, or (*b*) indirectly, as many authorities believe—i.e., through the vocal speech centre—to the graphic centre from which they are finally emitted.

6. Internal speech would be more or less profoundly affected; the patient could not mentally recall and make use of auditory speech symbols, since the connexions between the auditory speech centre and the associated ("ideational") centres are destroyed. Consequently, he could not think in auditory speech symbols; and since, in most individuals at all events, thought is chiefly carried on by means of auditory speech symbols, thought, intellect, and reasoning would, in those cases in which the word deafness was complete, be profoundly affected. In short, in cases of *complete* supracentral auditory aphasia, the auditory speech centre would be as completely separated from the associated ("ideational") cortical centres (other than the lower auditory and the motor-vocal speech centre) as it is in the central form of auditory aphasia. It must, however, be remembered that the process of compensation which is afforded by the establishment of roundabout methods of connexion—new methods of connexion which are totally different from the ordinary channels—appears to be very great. The remarkable cases of Laura Bridgeman and Helen Keller prove this. Hence, if the auditory speech centre, the other speech centres (vocal, visual, and graphic) and the associated ("ideational") centres were intact, in other words, if the lesion simply consisted of a destruction of the connecting fibres which pass between (to and from) the auditory speech centre and (to and from) the associated ("ideational") centre, it is not perhaps impossible to conceive (though this, if it ever occurs, must be most exceptional, more especially in adult aphasic patients in whom the processes of compensation are never so active as in the child[12]) that the "ideational" centres might, in some cases, be able to play back upon the auditory speech centre *through the vocal speech centre* with which they were still in connexion and in this roundabout way might be able to revive in consciousness the memory-pictures of auditory speech symbols (words), which were retained in the auditory speech centre, which was cut off from the "ideational" centres, *but which was not itself destroyed.* A case which I have recorded[13] seems to lend support to this supposition. In it the patient, a married woman, aged 26 years, had a sudden cerebral attack (no doubt embolic) 12 days after her confinement. This was followed by total deafness to all sounds for 16 days, complete word deafness for four weeks, word blindness, and temporary motor aphasia. The motor aphasia was rapidly recovered from, there was partial recovery from the word blindness, and very slow and imperfect recovery from the word deafness. The interesting point in the case in the present connexion was that the patient when asked a question *echoed the last part of it and then after repeating some of the words seemed to understand their meaning, which she was unable to do until she herself spoke (echoed) them.* She seemed to get information as to the meaning of the words by the aid of the ingoing kinæsthetic impressions which resulted from the vocalisation and motor movements attending the production of the words.

7. Objects presented to the other senses would not raise up the appropriate and corresponding auditory speech symbols—the object knife would not recall the word knife. There would also be, in many cases at least, marked defects (1) in spontaneous speech (unless a direct connexion were established between the "ideational" centres and the vocal speech centre, but this, as we shall afterwards see, is of very doubtful occurrence, certainly of very rare occurrence); (2) in reading (i.e., in understanding written speech), since, in most individuals at least, it would seem that written speech symbols have to be translated into auditory speech symbols (i.e., to pass through the auditory speech centre) in order to reach the associated ("ideational") centres; (3) in reading aloud; and (4) in spontaneous writing, since it would appear that, in most individuals at least, ideas are first put into concrete speech form in the auditory speech centre from which, if they are to be emitted in written speech, they pass to the visual speech centre and thence to the writing centre.

I do not lay any emphasis upon the clinical features of *complete* supracentral auditory aphasia; for, as I have already stated, the subject is entirely theoretical; there is, so far as I know, no undoubted case of complete supracentral auditory aphasia, verified by post-mortem examination, on record, and for the reasons given above I strongly doubt whether such a condition ever actually occurs. If complete supracentral auditory aphasia does occur its symptoms would, in my opinion, be identical with those of the central form of auditory aphasia, except in the one particular (and, as I have already pointed out, this point of difference is perhaps not constant)—viz., that in cases of complete supracentral aphasia the patient would be able to repeat spoken words, whereas in (the great majority of cases of) central auditory aphasia the patient is unable to repeat spoken words.

Incomplete or partial supracentral auditory aphasia.—A slight or partial degree of supracentral word deafness does no doubt not unfrequently occur. Cases are, for example, not uncommon in which there is no lesion of the auditory speech centre itself and yet in which the patient is unable to pick out an object, such as a knife, which is named to him; he sees the object and knows what it is, but in consequence of the destruction of the fibres which conduct nervous impulses *from the auditory speech centre to* the visual centre he is not able to pick out the knife when it is named to him.

Further, in cases of partial supracentral auditory aphasia of this description the fibres which carry nervous impulses *from the visual centre to* the auditory speech centre are usu in the internal capsule, the pons Varolii, or the medulla oblongata from cases of vocal (motor or emissive) aphasia. But I am not prepared to admit that cases of this kind should be classified as cases of auditory aphasia (1) until it is more clearly proved than at present appears to be the case that disease absolutely located in the end-organ of hearing can produce inability to perceive and understand speech sounds without interfering with the patient's ability to hear and understand ordinary (non-speech) sounds; and (2) unless it is definitely shown that it is impossible to distinguish cases of this kind (cases of *pseudo-subcentral* auditory aphasia as I have ventured to term them) from cases of actual subcentral (subcortical or subpictorial) auditory aphasia the result of a cerebral lesion. In short, in the present position of our knowledge it is, I think, advisable to restrict the term aphasia to those speech derangements which are due to functional disturbance or to organic disease of the *cerebral* speech mechanisms properly so-called.

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[10] Brain, vol. vii., 1885, p. 453.

[11] The Disorders of Speech, p. 355.

[12] In the remarkable cases of Laura Bridgeman and Helen Kel patients were children when the process of compensation (t and training of the cerebral functions) was developed.

[13] THE LANCET, May 8th, 1897, p. 1256.

Possibly in some cases the differential diagnosis of actual subcentral (subcortical or subpictorial) auditory aphasia and of pseudo-subcentral word deafness can only be made by taking into account the nature of the associated symptoms and conditions; for it would appear that the condition of hearing may be somewhat, possibly very, similar in the two conditions (subcentral auditory aphasia and pseudo subcentral auditory aphasia). But the nature of the associated symptoms and physical signs and a careful inquiry into the causation and mode of development of the deafness and of the lesion on which the deafness depends will, I fancy, usually (?always) enable the observer to determine without much difficulty whether the lesion is situated in the end-organ of hearing or the cerebrum.

I may add that the same reasoning also applies, and even more strongly applies, to cases of pseudo-subcentral visual aphasia; for it has also been suggested that derangement or disease in the end-organ of vision may prevent the patient seeing and so understanding written speech characters, while it does not interfere with his power of seeing and understanding ordinary objects.

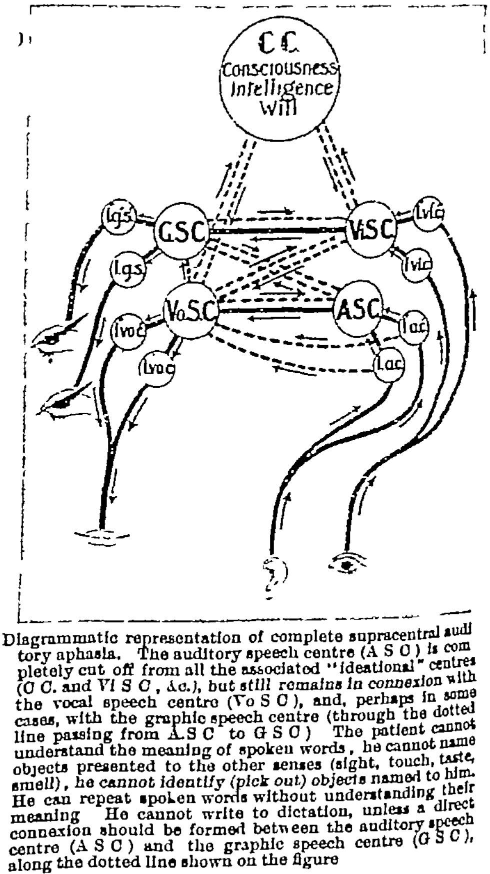
The clinical characteristics of supracentral (supracortical or suprapictorial) auditory aphasia.—The clinical characteristics of this form of auditory aphasia have not been definitely determined and, in my opinion, it is extremely doubtful whether this variety of aphasia can, or ever does, actually occur in a *complete* form, though it certainly may occur in a partial and incomplete form. Theoretically, *complete* supracentral (supracortical or suprapictorial) aphasia would result from a lesion which did not destroy the auditory speech centre but *which completely isolated it* (the auditory speech centre) from the associated ("ideational") centres. In other words, complete supracentral aphasia would, theoretically, result from a lesion which destroyed the fibres which pass (*a*) from the auditory speech centre to the associated ("ideational") centres—that is, to the whole of the rest of the cortex—and (*b*) from the "ideational" centres—that is, from the whole of the rest of the cortex—to the auditory speech centre, *with the exception of those fibres* (in other words, which did not interrupt the fibres) (1) which pass to the auditory speech centre from the lower auditory centres; and (2) the fibres which pass from the auditory speech centre to the vocal (motor) speech centre.[*] In Fig. 20 I have tried to represent this form of word deafness diagrammatically.

Now, it is very difficult to conceive (practically speaking, it is almost impossible to conceive) that such a lesion would be likely to occur or could, in fact occur, and so far as I know no case of complete supracentral auditory aphasia in which the diagnosis has been established and verified by post-mortem examination is on record. Further, authorities differ as to the nature of the aphasic symptoms which they think cases of supracentral aphasia should, theoretically speaking, present. Again, at the bedside it would often, I expect, be difficult to distinguish a case of complete supracentral auditory aphasia from a general disorganisation or dissolution of the intellectual powers—i e., from a case of widespread degeneration of the cerebral cortex. But partial or incomplete forms of supracentral auditory aphasia—cases in which a localised lesion interrupts the connexions between the auditory speech centre and one (or perhaps several), *but not all*, of the associated ("ideational") centres—do undoubtedly seem to occur.

Theoretically the aphasic symptoms characteristic of *complete* supracentral auditory aphasia (but, as I have already stated, I do not believe that such a condition occurs) would appear to be the following:—

1. The patient would be able to hear ordinary sounds and (?) to understand their meaning.
2. The patient would be able to hear and to understand musical sounds.
3. The patient would be able to hear words as ordinary sounds but he would not understand their meaning, he would be word deaf because the auditory speech centre is cut off from the associated ("ideational") centres in which the meaning of the words is stored. He would be unable to identify objects named to him—i.e., to pick out a knife from a number of other articles when told to do so.
4. The patient would be able to repeat spoken words. *This is said to be the great distinguishing feature between the central and supracentral forms of auditory aphasia* It is usually thought that in order that spoken speech may be repeated it *must* reach the auditory *speech* centre *from* which it is passed on, so to speak, to the vocal speech centre in order that it may be emitted. But the correctness of this proposition seems to me very doubtful. There *seems* every *reason* to suppose that in some cases of *central* auditory aphasia in which the patient *is* word deaf and in which the left (active) auditory *speech* centre appears to be completely destroyed, the patient can repeat spoken language but without understanding the meaning of the words. *Such* a patient is in the position of a child who repeats a word which he does not understand, or of a foreigner who is able more or less accurately to echo (or repeat) words of a language which he does not understand. As I have already suggested[*] this echo speech may in all probability be effected either by (*a*) the lower auditory centres acting upon the vocal speech centre (along the dotted lines from l.a c. and l'.a'.c'. to Vo S.C), or by (*b*) the right

FIG. 20.



Diagrammatic representation of complete supracentral auditory aphasia. The auditory speech centre (A S C) is completely cut off from all the associated "ideational" centres (C C. and Vi S C , &c.), but still remains in connexion with the vocal speech centre (Vo S C), and, perhaps in some cases, with the graphic speech centre (through the dotted line passing from A S C to G S C) The patient cannot understand the meaning of spoken words, he cannot name objects presented to the other senses (sight, touch, taste, smell), *he cannot identify (pick out) objects named to him.* He can repeat spoken words without understanding their meaning He cannot write to dictation, unless a direct connexion should be formed between the auditory speech centre (A S C) and the graphic speech centre (*G S C*), along the dotted line shown on the figure situated in the posterior part of the first (upper) temporo-sphenoidal convolution (and perhaps in the adjacent part of the second temporo-sphenoidal convolution) and that in the great majority of normal individuals this centre is only active (or only sufficiently active independently to carry on the auditory speech function) on one (the left) side of the brain. Consequently, the absence of any lasting word deafness in Edgren's case is easily explained.

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[*] It is necessary to put in this proviso, for if the auditory speech centre were completely isolated from *all* of its connexions, except ingoing impressions passing to it from the lower auditory centres and the auditory nerves, the symptoms would of course be identical with those which characterise the central form of auditory aphasia.

[*] Lecture II., THE LANCET, Feb. 10th, 1906, p. 353.

Further, if it be granted that the lower centre for hearing (i.e., for ordinary sounds) and the auditory tone centre are situated in the first or upper temporo-sphenoidal convolution, the lesions which were found in this (Edgren's) case would seem to show (1) that the anterior end of the first temporo-sphenoidal convolution is the lower auditory centre for ordinary sounds; and (2) that the middle part of the temporo-sphenoidal convolution is the auditory centre for musical sounds (the auditory tone centre). In Edgren's case the anterior two-thirds of the first (upper) temporo-sphenoidal convolution on the left side and the posterior half of the first (upper) temporo-sphenoidal convolution on the right side were destroyed. If one were to divide the first (upper) temporo-sphenoidal convolution into three parts and to locate the auditory centre for ordinary sounds in the anterior part, the auditory centre for musical sounds in the middle part, and the auditory centre for speech sounds in the posterior part it would be easy to give an intelligible explanation of the auditory symptoms which were present in this case. On the left side the posterior third of the first left temporo-sphenoidal convolution (the auditory speech centre) remained intact, consequently there was no word deafness. On the right side the anterior part of the first temporo-sphenoidal convolution, which I have suggested may perhaps be the lower auditory centre for ordinary sounds, remained intact and since this centre is active on both sides of the brain the patient was still able to hear and understand ordinary sounds. The middle part of *both* first temporo-sphenoidal convolutions which I have suggested is perhaps the auditory tone centre, was completely destroyed on the left side and partly destroyed on the right side of the brain. This would explain the persistence of the "tone deafness," granting—as I think is probably the case—that the auditory tone centre is, in most normal individuals, active on both sides of the brain. But it must be remembered that such a division of the first (upper) temporo-sphenoidal convolution (the auditory centre as a whole) is purely theoretical. It takes it for granted that the centres for ordinary hearing, for musical sounds, and for speech sounds are all situated in, and confined to, the first or upper temporo-sphenoidal convolution. But, as I have already pointed out, A. W. Campbell's researches seem to show that the lower centre for hearing is situated in the transverse temporal gyri of Heschl; and the cases of word deafness which have been examined post mortem seem to show that the auditory speech centre occupies more than the posterior third of the first (upper) temporo-sphenoidal convolution.

In the present position of our knowledge it is impossible to make an explicit statement as to the exact position of the auditory note centre; but for the reasons given above I am disposed to think that it is probably situated in front of the auditory speech centre, in or near the middle part of the first (upper) temporo-sphenoidal convolution or the adjacent portion of the transverse temporal gyri of Heschl, and that in most normal individuals it is probably active on both sides of the brain. Consequently, if this localisation is correct, complete and permanent "tone deafness" will, in most normal individuals, only result from a *bilateral* lesion which destroys the auditory note centre (the middle part of the upper temporo-sphenoidal convolution or perhaps the adjacent portion of the transverse gyri of Heschl) in each hemisphere of the brain.

One would, *a priori*, expect that the auditory centre for musical sounds would, like the auditory centre for ordinary sounds, be active on both sides of the brain, and the fact that in many cases of auditory aphasia (word deafness) in which the first (upper) left temporo sphenoidal convolution is extensively destroyed there is no permanent or persisting "tone deafness" seems to give support to this view. It must, however, be remembered that in other cases of word deafness in which the same part of the brain is destroyed the presence of "tone deafness" has been noted, at all events as a temporary condition.

It is unnecessary to say that the musical faculty varies very greatly in different individuals and it is quite possible that in some persons—i.e., in those who inherit a strong musical faculty—the auditory tone centre is active on both sides of the brain, whereas in other persons—i.e., those who have little or no natural musical faculty but in whom a certain degree of musical proficiency is acquired as the result of training and cultivation—the auditory tone centre is active only on one (the left) side of the brain. Further, one may suppose that in the case of highly cultivated and trained musicians who have been taught to read music at sight and to write music the auditory tone centre which was probably in them originally active in both hemispheres of the brain may have come to be chiefly active (located) in the left hemisphere, since there is reason to suppose that the visual tone centre (like the visual speech centre) is in such cases only or chiefly active in one (the left) hemisphere.[14]

The examination of cases of aphasia would seem to show that the emissive or motor centre for the vocal expression of musical sounds is active on both sides of the brain; at all events this would appear to be the fact in those cases of motor-vocal aphasia in which the patient can sing words which he is unable to pronounce in the form of ordinary speech.

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Frequency: (a) In adults.—The condition would appear to be very uncommon. Among 56 recorded cases of arthritis due to pneumococcus only two were of primary origin. These 56 cases have been derived from the following sources. Leroux, in his excellent monograph on the subject, collected 26 instances of pneumococcal affections of joints; 23 of these were associated with pneumonia. Of the three remaining, one was strictly primary—that of Widal and Lesné, of which an abstract is given below. In the second case there was found after death a purulent pericarditis, of pneumococcal origin, which was apparently of an earlier date than the arthritis. In the last case it is doubtful whether the joint affection preceded or followed the cerebral lesion. The patient was suffering from an acute inflammation of the ankle-joint and from a right-sided hemiplegia, which was shown after death to be due to a pneumococcal meningitis. No history of the illness could be obtained.

Cave has appended three additional cases to his summary of Leroux's paper, each of them consequent on pneumonia. Raw has had under his own care eight patients suffering from this condition, in each case as a sequel of pneumonia. Herrick has collected 13 examples, but one only, that of Allen and Lull, which is referred to later, was primary. Quite recently Secretan and Wrangham have described six more cases with a history of recent pneumonia in every one. Last year Fornaca published another example of the primary form of pneumococcal arthritis, which, with the case recently in the Middlesex Hospital, brings the total up to four. Without in any way claiming to be exhaustive, this analysis serves to emphasise the rarity of the primary form of the disease.

(b) In children.—In early life, affections of joints due to pneumococcus, whether primary or secondary, seem to be

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[14] In a paper on "Crossed" Aphasia (THE LANCET, June 3rd, 1899, p 1473), I have directed attention to the influence which the acquirement of the act of reading and writing, perhaps, has in locating the active or driving speech centres (auditory and motor vocal) in the left hemisphere of the brain. The same reasoning applies to the musical faculty.

also destroyed; consequently the patient is unable to *name* the object knife when it is shown to him. This is merely one illustration of incomplete supracentral auditory aphasia; other forms may also, of course, occur. The connexions between the auditory speech centre and any of the other ("ideational" and sensory) centres in the cerebral cortex may, of course, be interrupted in the same way; the patient may be unable to name an object which is touched, tasted, smelt, &c.

In many cases of partial supracentral auditory aphasia the symptoms are, practically speaking, the same as in those cases of "*intracentral*" aphasia in which the fibres which connect the auditory speech centre with the higher visual centre (of which the visual speech centre is only a component part) are the seat of the lesion.

Tone Deafness

Before leaving the subject of auditory aphasia it may be well to refer briefly to the condition which has been termed "tone deafness." The phenomena of disease seem to show, as one would *a priori* expect, that a separate and a distinct part of the auditory centre is set apart for the reception and recognition of musical sounds. In rare cases the patient is unable to perceive and recognise musical sounds, as musical sounds, tunes, melodies, &c., while he retains the ability to recognise and understand (*a*) ordinary sounds, and (*b*) speech sounds. The term "auditory amusia" has been given to this condition. The term "amusia" has been applied to derangements of the musical faculty which result from lesions in the higher cerebral nerve apparatus. It would appear that separate and distinct areas of the cerebral cortex are concerned with the reception and registration of musical sounds and of written musical characters, and with the emission of the nervous impulses required for the production of the muscular movements concerned in the production of musical sounds and of written musical characters, and it seems probable that different forms of amusia (auditory, visual, motor-vocal, and graphic), corresponding to the different forms of aphasia, occur.[11]

The part of the auditory centre which is concerned with the reception and registration of musical sounds may be termed the "auditory note centre"; the part of the motor-vocal centre which is concerned with the emission of musical vocal sounds may be termed the "motor-vocal note centre"; the part of the visual centre which is concerned with the reception of written musical characters may be termed the "visual note centre." The same doubt exists as to the presence of a separate centre for the graphic expression of musical characters as we have previously seen exists regarding the presence of a separate and distinct graphic speech centre; this centre (*the graphic musical centre*) is, perhaps, merely a part of the ordinary psycho-motor centre for the upper extremity. And in connexion with this point it must be remembered that ingoing musical impressions which impinge, as it were, either upon the auditory note centre or the visual note centre, or musical impulses, so to speak, which originate spontaneously in the brain (mind), may be translated into motor producing impulses which may be emitted either in the form of—

1. *Song*—i.e., through the vocal note centre—which is perhaps situated in the posterior end of the lower (third) frontal convolution or in the lower end of the ascending frontal convolution, and is probably active *on both sides of the brain*.

The fact that in some cases of motor-vocal aphasia the patient who is unable to speak in the ordinary way is able to sing—i.e., to emit words in song which he cannot emit in ordinary speech—seems to show that the motor-vocal speech centre and the motor-vocal note or tone centre are separate and distinct; in other words, destruction of the posterior end of the lower third left frontal convolution does not necessarily produce motor-vocal amusia. In such circumstances (in cases of motor-vocal aphasia due to destruction of Broca's convolution) musical speech or song may make its way out (be emitted) either through the right vocal speech centre (posterior end of the *right* third frontal convolution) or perhaps through the lower motor centre for the lips, tongue, larynx, &c. (situated in the lower end of the ascending frontal convolution). The latter supposition seems to me less likely in those cases in which the patient is able distinctly to pronounce (articulate) *words* in song.

2. *Written musical characters*—i.e., through the graphic musical centre, which is probably situated in the posterior end of the second frontal convolution or in the adjacent part (middle part) of the ascending frontal and parietal convolutions, and which in most (right-handed) persons is probably active on one (i.e., the left) side of the brain; or—

3. *Instrumental music* (by means of the piano, violin, &c.)—i.e., through the ordinary psycho-motor centre for the upper extremity situated in the middle part of the ascending frontal and ascending parietal convolutions, and since, in playing such instruments as the piano and the violin both hands are actively engaged, this emissive centre must be bilaterally represented—i.e., active on both sides of the brain. Consequently, in addition to musical *agraphia*, a condition of musical *amania*, as it may be termed, should therefore be described.

It would appear that the action of the motor centres concerned in the production of the muscular movements necessary to write music and to play on a musical instrument, such as the piano or the violin, may be initiated, regulated, and governed either by the auditory note centre or the visual note centre, or by both. It is probable that in the absence of the auditory note centre, a pianist or violinist who is "tone deaf" could not only read and write music, but could play (on the piano, violin, &c.), spontaneously or at sight, provided that the visual note centre had previously been highly trained and developed; his playing would, however, be mechanical, for owing to the absence of the direction of the auditory note centre he would not be able to play with feeling and expression, and in many cases he would in playing probably make mistakes somewhat similar in character to the mistakes in speaking which patients whose auditory speech centre is destroyed make.

A very remarkable and important case of "tone deafness" has been recorded by Edgren. The details are as follows:—

Edgren's Case of Tone Deafness.—Clinical History—A man, aged 34 years, the day after knocking his head against a lamp-post, complained of severe headache, difficulty in seeing, and mental confusion, he vomited and had illusions of taste. 18 days after the injury the patient, who was an intelligent and musical man, developed "tone deafness" as well as aphasic symptoms; he came home and told his wife that he had been unable to make out the melodies played at a place of public amusement; he had been round to several places to test himself, he could only hear indistinct sounds and was unable to make out any melody; he could not even distinguish between a march and a valse or polka. When his wife spoke to him he did not answer her. During the two following days the patient did not speak. The aphasic symptoms and speech defects disappeared within a month, but his "tone deafness" remained unchanged until his death, which took place three years after the accident, from purpura.

Post mortem appearances.—The chief post mortem changes were the following. In the *left* hemisphere the *anterior two-thirds of the superior temporal gyrus* and the *anterior half of the middle temporal gyrus* were destroyed, exposing to view the island of Reil At the junction of the posterior and middle thirds of the superior temporal gyrus the surface of the brain was sclerosed and adherent to the thickened pia mater. Under this sclerotic patch and for about one centimetre behind it, in the first temporal gyrus, the softening was continued in the grey matter, but was decreasing in depth The surrounding parts were all healthy. In the *right* hemisphere there was a somewhat similar defect surrounding the horizontal limb of the fissure of Sylvius, in the right hemisphere *the lesion involved the upper and external surface of the superior temporal gyrus in its posterior half* and the lower edge of the supramarginal gyrus for a similar distance. The destruction extended deeply down to the bottom of the fissure of Sylvius and had spread to the white matter, which was softened to a much greater extent than the grey. The central ganglia and the internal capsule were healthy Part of the branch of the left middle cerebral artery which supplies the island of Reil was found converted into a fibrous cord and presented a bulbous enlargement. The author attributes the transient aphasic symptoms to the disturbance of circulation caused by this arterial lesion, since the back part of the first and second left temporal gyri (in which the auditory speech centre is situated) were healthy That the right hemisphere should have taken up the functions of the left temporal lobe seems to the author improbable for two reasons (1) the short duration of the aphasic symptoms, and (2) the fact that the posterior part of the first temporal gyrus, on the right side, was destroyed. Edgren concludes that the "tone deafness" was due to the destructive lesion in the first and second gyri of the left temporal lobe.[13]

This case seems undoubtedly to show that the auditory centre for musical sounds is separate and distinct from the centre for ordinary hearing and from the auditory speech centre and that a localised cerebral lesion may produce "tone deafness" (auditory amusia or auditory musical aphasia) without producing deafness to ordinary sounds and without producing word deafness.

Now, we have seen that the auditory speech centre is situated in the posterior part of the first (upper) temporo-sphenoidal convolution (and perhaps in the adjacent part of the second temporo-sphenoidal convolution) and that in the great majority of normal individuals this centre is only active (or only sufficiently active independently to carry on the auditory speech *function*) on one (the left) side of the brain. Consequently, the absence of any lasting word deafness in Edgren's case is easily explained.

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[11] If the term amusia be substituted for the term aphasia in Table I. the nature of the different (possible) forms of amusia will be at once realised, it must, however, be understood that the occurrence of many of these forms has not as yet been demonstrated in actual practice.

[13] Brit. Med. Jour., vol. ii, 1894, p 1442.

Further, if it be granted that the lower centre for hearing (i.e., for ordinary sounds) and the auditory tone centre are situated in the first or upper temporo-sphenoidal convolution, the lesions which were found in this (Edgren's) case would seem to show (1) that the anterior end of the first temporo-sphenoidal convolution is the lower auditory centre for ordinary sounds; and (2) that the middle part of the temporo-sphenoidal convolution is the auditory centre for musical sounds (the auditory tone centre). In Edgren's case the anterior two-thirds of the first (upper) temporo-sphenoidal convolution on the left side and the posterior half of the first (upper) temporo-sphenoidal convolution on the right side were destroyed. If one were to divide the first (upper) temporo-sphenoidal convolution into three parts and to locate the auditory centre for ordinary sounds in the anterior part, the auditory centre for musical sounds in the middle part, and the auditory centre for speech sounds in the posterior part it would be easy to give an intelligible explanation of the auditory symptoms which were present in this case. On the left side the posterior third of the first left temporo-sphenoidal convolution (the auditory speech centre) remained intact, consequently there was no word deafness. On the right side the anterior part of the first temporo-sphenoidal convolution, which I have suggested may perhaps be the lower auditory centre for ordinary sounds, remained intact and since this centre is active on both sides of the brain the patient was still able to hear and understand ordinary sounds. The middle part of *both* first temporo-sphenoidal convolutions which I have suggested is perhaps the auditory tone centre, was completely destroyed on the left side and partly destroyed on the right side of the brain. This would explain the persistence of the "tone deafness," granting—as I think is probably the case—that the auditory tone centre is, in most normal individuals, active on both sides of the brain. But it must be remembered that such a division of the first (upper) temporo-sphenoidal convolution (the auditory centre as a whole) is purely theoretical. It takes it for granted that the centres for ordinary hearing, for musical sounds, and for speech sounds are all situated in, and confined to, the first or upper temporo-sphenoidal convolution. But, as I have already pointed out, A. W. Campbell's researches seem to show that the lower centre for hearing is situated in the transverse temporal gyri of Heschl; and the cases of word deafness which have been examined post mortem seem to show that the auditory speech centre occupies more than the posterior third of the first (upper) temporo-sphenoidal convolution.

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PNEUMOCOCCAL affections of joints are well recognised and many instances of the condition have been placed on record. In the great majority of these, however, the joint affection has been secondary, in point of time, to some other pneumococcal lesion of the body, such as pneumonia, empyema, or otitis; or has arisen in the course of a general infection (with endocarditis, meningitis, &c.); whilst the cases in which an arthritis of this nature has occurred as an isolated phenomenon, in the absence of any other signs of infection, so as to merit the name "primary," are few in number.

Frequency: (*a*) *In adults.*—The condition would appear to be very uncommon. Among 56 recorded cases of arthritis due to pneumococcus only two were of primary origin. These 56 cases have been derived from the following sources. Leroux, in his excellent monograph on the subject, collected 26 instances of pneumococcal affections of joints; 23 of these were associated with pneumonia. Of the three remaining, one was strictly primary—that of Widal and Lesné, of which an abstract is given below. In the second case there was found after death a purulent pericarditis, of pneumococcal origin, which was apparently of an earlier date than the arthritis. In the last case it is doubtful whether the joint affection preceded or followed the cerebral lesion. The patient was suffering from an acute inflammation of the ankle-joint and from a right-sided hemiplegia, which was shown after death to be due to a pneumococcal meningitis. No history of the illness could be obtained.

Cave has appended three additional cases to his summary of Leroux's paper, each of them consequent on pneumonia. Raw has had under his own care eight patients suffering from this condition, in each case as a sequel of pneumonia. Herrick has collected 13 examples, but one only, that of Allen and Lull, which is referred to later, was primary. Quite recently Secretan and Wrangham have described six more cases with a history of recent pneumonia in every one. Last year Fornaca published another example of the primary form of pneumococcal arthritis, which, with the case recently in the Middlesex Hospital, brings the total up to four. Without in any way claiming to be exhaustive, this analysis serves to emphasise the rarity of the primary form of the disease.

(*b*) *In children.*—In early life, affections of joints due to pneumococcus, whether primary or secondary, seem to be of more common occurrence. Dudgeon and Branson state that in their experience "pneumococcus practically monopolises the etiology of infective arthritis during infancy and about up to the end of the first hemi-decade." Often there is also present some inflammation of the middle ear and the great importance of this association must be insisted on as providing a probable explanation of the origin of the arthritis. Otitis media is one of the most frequent results of pneumococcal activity during the early years of life. Netter examined 46 consecutive cases of pneumococcal infection in children and found amongst them 29 instances of otitis media. It is a reasonable supposition that at times the inflammatory process in the middle ear may be so trivial in its clinical manifestations as to be entirely overlooked and yet of sufficient severity from a pathological standpoint as to afford the organism an entry into the blood stream and enable it to set up what is apparently a primary arthritis.

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[14] In a paper on "Crossed" Aphasia (THE LANCET, June 3rd, 1899, p 1473), I have directed attention to the influence which the acquirement of the act of reading and writing, perhaps, has in locating the active or driving speech centres (auditory and motor vocal) in the left hemisphere of the brain. The same reasoning applies to the musical faculty.

Dudgeon and Branson have recorded five cases of suppurative arthritis (pneumococcal) in children. In two of these there was an accompanying otitis media; in one a history of preceding pneumonia; whilst in two the joint affection was the only discoverable lesion. Herzog has published an account of 28 collected cases occurring in children under the age of two years. In four of these no other evidence of infection could be found. He lays particular stress on the importance of disease of the middle ear as a precursor of this condition; he also quotes several other lesions which have been suggested as possibly holding a similar relationship, such as conjunctivitis (Cagnani), follicular stomatitis (Ockmar), and catarrhal angina of the oral cavity (Bichat and Coffert).

Combining these two sets of observations, it is found that out of 38 cases of pneumococcal arthritis in infants and young children, six were primary, a marked contrast to the corresponding figure for adults. But it is not improbable that the frequency of this condition at all ages is greater than these figures would seem to indicate. For when an arthritis of this nature arises quite apart from any signs of infection elsewhere and the patient recovers without operation, it is more than probable that the nature of the pathogenic organism will remain undiscovered.

Pathology.—The exact mode of origin in these cases is not fully understood. It is evident that the channel of infection is the blood stream, and the access of any micro-organism to the blood stream presumably implies some injury to the smaller vessels at the point of attack leading to stasis and possibly to thrombosis. Through the devitalised vessel walls the organisms make their way or small fragments of clot containing bacteria may become detached and infection is in this way disseminated throughout the circulation.

As regards pneumococcus, when this organism determines an arthritis, subsequently to some well-marked lesion elsewhere, such as pneumonia, meningitis, or otitis, the site of entry is evident. In the absence, however, of any such antecedent one must assume that a slight injury of a mucous membrane or of the skin has provided the means of entry. It is in this sense that we have applied the term "primary" to the joint lesion—viz., as implying that the real initial lesion—the spot where the organism has gained access to the circulation—has been so slight as to give no indications of its situation. There is reason to believe that this usually occurs in the middle ear, mouth, naso-pharynx, or tonsils. Diplococcus pneumoniæ is almost constantly present in the saliva and is therefore at hand to seize any favourable opportunity of effecting an entrance into the circulation. Moreover, it has come to be recognised within recent years that this parasite has an important influence on the causation of sore-throat, with or without membranous exudation, very similar to that met with in diphtheria. If a very slight attack of this nature were to pass entirely unrecognised both by patient and medical attendant any ensuing complication would be likely to be classed as primary.

It is therefore evident that there are no grounds for drawing a hard-and-fast line between primary and secondary pneumococcal arthritis. For whether the initial injury be slight or severe, the minute pathological processes which enable the organisms to invade the blood stream are very similar, any difference that exists being one of degree only. At the same time there is a distinction which may be made between the two varieties and which is not without importance in prognosis.

Where the arthritis is primary and localised there is no reason to assume any extensive or lasting infection of the blood. It is reasonable to suppose that by some means or other a batch of pneumococci, possibly a very small one, set free in the circulation has alighted on one of the structures of a joint the protective mechanism of which is at the moment a little below the average, whether owing to injury or some other cause, and has given rise to the inflammation. It is probable that the initial lesion—the site of entry—so trivial that it has escaped detection, will have healed before any considerable number of organisms have made their way into the blood stream. A similar explanation may be applicable to cases of gonorrhœal and certain other forms of infective arthritis. Later, no doubt, the infection may become generalised and the condition pass into one of true septicæmia, the seat of distribution of the organisms being in this event the inflamed joint and not the small initial lesion.

To turn now to a case of secondary arthritis, arising, say, during an attack of pneumonia. The conditions met with here form an almost exact antithesis to those just described. The initial lesion is a gross one, the injury to the lung tissue is severe, and its powers of resistance are almost annihilated for the time being. Moreover, there is an enormous supply of organisms at hand to continue the invasion of the blood stream and these of a degree of virulence much enhanced by their successful struggle with the tissue cells. This distinction, if true, suggests a difference in severity between primary and secondary arthritis of pneumococcal origin, and the hypothesis seems to be borne out by the actual facts. For, after making due allowance for the small number of cases, the recovery of three out of the four patients with primary arthritis described below is in marked contrast with the death-rate of about 65 per cent. for the cases of secondary arthritis.

There remains a group of cases which, from a pathological standpoint, is very puzzling—namely, those in which the symptoms of the joint affection appear some days before the lung trouble. Leroux mentions two cases of this kind in boys, aged respectively five and eight years. In the first of these the arthritis preceded the pneumonia by three days, and in the second by seven days; the former died and the latter recovered. Raw describes the case of a man, aged 52 years, in whom the arthritis preceded the pneumonia by two days; the patient recovered. There are two possible explanations of this unusual sequence of events. Either the arthritis is the primary event and the pneumonia secondary or, where the interval is short, the infection of the joint takes place during the period of incubation of the pneumonia. Owing to this uncertainty of origin we have not classed these cases as primary.

It is not quite clear why diplococcus pneumoniæ should at times show a selective preference for the structures of a joint. Not infrequently there is a history of some previous injury which has apparently determined the localisation of the infection. For instance, Billings describes the case of a man who, shortly before the crisis of pneumonia, became delirious and jumped out of a second-storey window, injuring his left shoulder and right knee. Some days after the crisis both joints became acutely inflamed and distended with pus containing pneumococci. Again, in the case of a newly born child, mentioned below, the joint attacked had been previously injured during a difficult labour. Further, the previous injury may be of pathological origin. Thus, rheumatism and gout appear to render the joints less able to resist bacterial invasion. In this connexion Widal draws attention to the importance of "*causes internes*," such as deficient innervation, in affording what he calls a "*point d'appel*" to organisms.

Experiments on animals throw some light on the question. Ausset inoculated mice and rabbits subcutaneously with cultures of pneumococcus after applying some mechanical injury ("*traumatisme aseptique*") to the joints. In seven out of nine animals there ensued a purulent arthritis. Züber obtained a similar result by the simultaneous injection of terebinth into the joint cavity and of pneumococci beneath the skin, whilst Kasparek has shown that section of the sciatic nerve favours the localisation of any subsequently inoculated organisms in the bones and joints of the enervated limb. But the most interesting series of experiments are those of Bezançon and Griffon who were able to produce an inflammation of the joints of rabbits either by injecting virulent cultures into partially immunised animals or by using cultures for inoculation attenuated by age. In these circumstances they found that the animals did not, as is usually the case, die from a generalised infection within from 24 to 48 hours but developed localised lesions, especially of the joints, appearing some considerable time after inoculation. They were unable to recover the organism from the tissues after death but found that the serum of the animals had an active agglutinative reaction on pneumococci and also a protective influence against experimental inoculation. Besançon and Griffon regard these results as bearing out the general pathological law that "microbes of attenuated virulence readily attack the various serous structures, especially those of the joints." This line of argument implies that a primary arthritis of pneumococcal origin is to be explained either by weakness of attack or by unwonted resistance on the part of the patient, but this is a matter of conjecture. Nevertheless these experiments serve to emphasise a point of extreme weight in the consideration of the phenomena of bacterial pathogenesis—namely, that these phenomena depend on two factors, the activity and vitality of the invading organism and the defensive powers of the subject attacked, two factors inseparately associated and, as it were, reciprocal; and in order to arrive at any true understanding of the real significance of pathogenesis it is necessary to consider the one with the other.

The degree of immunity or, conversely, of susceptibility in any given instance which finds expression in the severity or variety of the pathological processes that occur, represents the balance struck between these two opposing forces; and inasmuch as both the one and the other are of uncertain stability and liable to variation, so also the susceptibility will be similarly inconstant, and may even become converted into an immunity—that is to say, an organism usually pathogenic may lose its toxic properties.

Illustrative cases.—There follows a short account of four cases of primary pneumococcal arthritis. The first of these refers to a patient recently under the care of one of us (W. P.) in the Middlesex Hospital. The other three have been collected from the literature. A description of a fifth case is appended, which, though not strictly primary, is for many reasons of interest.

CASE 1.—A young man, aged 23 years, landed in England on Sept. 24th in good health and was admitted to the Middlesex Hospital on the following day suffering from an acute inflammation of the right knee-joint. His family history was excellent and he had always enjoyed good health. Four months previously he had a fall from his bicycle, slightly bruising both knees, but was quite recovered in a few days. He had never had gonorrhœa. On the morning after his arrival in London, whilst out walking, he noticed a slight "pricking" sensation in his right knee. This soon gave place to pain which compelled him to lie up on the same afternoon. The onset of the illness was not attended by any sore-throat nor by any feeling of general malaise. On admission the temperature was 102° F. and the face was a little flushed. The right knee-joint was visibly distended by fluid, very tender, and acutely painful. No other joint was affected. The tongue was somewhat furred; the throat was healthy. The thoracic organs were normal and there were at no period of his illness any symptoms of lung disease. The urine was acid, clear, and did not contain flakes. Hot fomentations were applied to the knee and sodium salicylate was prescribed. For the first four days the knee continued to increase in size though the pain gradually became more bearable. On Sept. 29th the temperature had gradually fallen to normal but rose again the same evening and continued to oscillate between normal and 102° until after operation on Oct. 12th when the fever quickly subsided. On Oct. 9th the knee-joint was aspirated and two or three ounces of thin greenish-yellow sero-pus were withdrawn, with marked relief to the patient. A very few capsulated diplococci, exactly resembling pneumococci, were found in the fluid and it was decided to drain the joint. Mr. Andrew Clark operated on Oct. 12th, making a longitudinal incision about two inches long on either side of the joint. A large quantity of greenish sero-pus was evacuated, the joint was thoroughly washed out with warm boric solution, a drainage tube was inserted, and a cyanide gauze dressing was applied. The patient suffered severe pain in the joint the night after operation and was given morphine. The joint was irrigated daily and a considerable quantity of pus came away for the first few days. The discharge of pus had ceased on Oct. 24th and from this date convalescence was rapid. He was sent to the Clacton Convalescent Home on Nov. 8th and returned a few weeks later restored to health and with a perfectly sound joint.

Bacteriological examination.—The examination of the fluid withdrawn from the knee by an exploring needle on Oct. 9th gave no very definite results. It is true that in cover-glass specimens, stained by Löffler's blue and by Gram's method, there could be seen with the microscope a few scattered diplococci resembling diplococcus pneumoniæ both in shape and in staining reactions, but the inoculation of artificial media (three agar and three broth tubes) produced no growth. Moreover, the injection of some of the fluid into the peritoneal cavity of a mouse caused no harmful effect to the animal. However, the microscopical appearances were alone sufficient to justify a strong suspicion that the arthritis was due to the pneumococcus. The case seemed, therefore, to be one of exceptional interest and accordingly an extended series of observations were made with material obtained at the time of the operation. As soon as the joint cavity had been opened some of the blood-stained sero-pus which emerged was collected in a sterilised syringe and utilised as follows:—

1. Cover-glass preparations were made and stained by Löffler's blue and Gram's methods. These showed a small number of diplococci the appearance of which was exactly typical of the pneumococcus. Though few in number they were rather more numerous than those seen in the first specimen of sero-pus. The capsules were very well marked.

2. From the pus were inoculated 37 tubes of various media (agar-agar, glucose-agar, horse serum, gelatin, peptone broth, glucose broth, lactose, and litmus broth); also two Erlenmeyer flasks, each containing 75 cubic centimetres of peptone broth, and one Erlenmeyer flask containing 75 cubic centimetres of milk. The flasks were used because this method had often proved successful in attempting to isolate an organism from fluids in which it is present only in very small numbers when inoculation of tubes in the ordinary way has given a negative result. In this particular case no growth occurred on any of the tubes and one of the flasks also remained sterile. In the other flask of broth a slight general turbidity was seen after incubation at 37° C. for 48 hours. The medium was examined microscopically after 64 hours and was found to contain diplococci retaining Gram's stain, and subcultures from this broth on various media corresponded in every way with those of the pneumococcus. After 64 hours the milk in the third flask showed signs of commencing coagulation. On microscopical examination there were seen a few diplococci but these were quite outnumbered by very many large Gram-staining bacilli. The latter were obviously a contamination, such as is frequently present in milk tubes presumed to be sterile but which have not been tested before inoculation by incubation for 12 hours at 37° C.

3. Some of the pus was injected into the peritoneal cavity of a rabbit and of a mouse; both these animals remained alive and well. Finally, two cubic centimetres of the broth culture mentioned above was injected into a mouse with a similarly negative result.

Comments.—Owing to the failure of the animal experiments the final test of the identity of the organism was lacking, nevertheless there is no reason to doubt that the arthritis was caused by pneumococcus. We base the diagnosis of primary arthritis on the complete absence of sore-throat or general malaise at the time of onset and do not consider that the slight bruising of the knees four months ago invalidates this view of the case. One is naturally tempted to connect the mildness of the illness with the harmless effects of animal inoculation, but such an astonishing discrepancy is sometimes found to exist between the toxicity of an organism towards man and towards animals that the inference would not in our opinion be justified.

CASE 2 (Widal and Lesné, quoted by Leroux, 1899).—The patient was a man, aged 68 years, in the enjoyment of perfect health. He gave no history of previous illness, except that he had been subject to a slight degree of rheumatism in the smaller joints of the hands and feet. One morning, whilst at work apparently in his usual health, he was suddenly seized with severe chills, headache, and general feeling of illness. He was feverish that evening and slightly delirious at night. Next morning he complained of diffuse pains in the left arm which on the following day became localised in the left sterno-clavicular joint and the back of the left hand. On admission to hospital on the eighth day of illness it was found that the left sterno clavicular joint was swollen to the size of a pigeon's egg and was very tender. On the back of the left hand there was an acutely tender swelling over the third and fourth metacarpal bones.

No fluctuation could be detected in either place. The lungs were quite healthy and no other evidence of disease could be found. The temperature on admission was 102·2° F.; on the following day it fell to normal and did not rise again above this level. The swelling at the back of the hand gradually disappeared during the next few days; that of the sterno-clavicular joint, however, slowly increased in size until fluctuation was felt, and this in spite of a complete absence of general symptoms. A sterilised pipette was introduced into the joint and a few drops of pus were withdrawn. This was found to contain a number of capsulated diplococci, which were proved to be identical with diplococcus pneumoniæ by means of cultures on artificial media and the inoculation of animals. After this the pain and swelling slowly diminished. For eight days they remained entirely absent, and then, without apparent reason, reappeared. Some pus was again withdrawn and examined with exactly similar results. Once more the local symptoms slowly subsided and the patient left the hospital completely cured six weeks after admission.

Comments.—This case presents several points of interest: the sudden onset, resembling pneumonia; the short duration of the constitutional symptoms; the curious recrudescence of the inflammatory process in the sterno-clavicular joint without accompanying rise of temperature. Leroux regards the rheumatic changes in the joints as having been an important factor in determining the situation of the infective process.

CASE 3 (Allen and Lull, 1902).—The patient was a woman, aged 40 years, single, who sought admission to hospital on Jan. 24th on account of pain and swelling in the left knee of two days' standing. During the four days preceding admission she had suffered from "cramps in the abdomen." The patient was deeply offended at being asked if she had had gonorrhœa and absolutely refused to give any account of her illness. The general condition was good although the temperature was 101·4° F. On the following day the joint was distended with fluid and some thick, yellow pus was withdrawn with an aspirator. It was decided at once to lay open and thoroughly to cleanse the joint. On Jan. 27th the general condition was worse with delirium and high fever (103°). The leg was amputated above the knee. The stitches and gauze-drainage wicks were removed on Feb. 3rd when two ounces of sero-pus escaped. The tissues about the wound looked very unhealthy. On the following day the patient's condition was very serious with rigors, delirium, and high fever, the temperature reaching 108° just before death, which occurred that evening.

Bacteriological examination.—The pus from the knee-joint was found to contain typical capsulated diplococci and cultures made from it yielded a growth characteristic of the pneumococcus. No experiments on animals were made. Cultures made from the blood during life remained sterile. Post-mortem examination revealed no other traces of pneumococcal infection.

Comments.—On account of the negative result of the bacterial examination of the blood Allen and Lull regard the fatal ending of this case as due to severe toxæmia, the organisms themselves being confined to the joint but disseminating their poisonous products throughout the body. If this supposition be correct the case is one of exceptional interest. It is, however, well known that the cultivation of organisms from the blood is a matter of some uncertainty and the failure of one attempt to do so cannot be considered as a proof of their absence unless confirmed by repetitions of the attempt.

CASE 4 (Luigi Fornaca, 1905).—The patient was a woman, aged 28 years, married, in the seventh month of pregnancy. On Nov. 15th while in apparent good health she was suddenly seized with severe headache, shivering, and a sense of general illness. Four days later she complained of intense pain in the right elbow and a few hours later in the right knee. She was admitted to hospital on Nov. 19th, the eighth day of illness. The right knee-joint was swollen to thrice its natural size, the skin covering the joint was tense but not reddened, and fluctuation could not be obtained; there were acute pain and tenderness on manipulation. The pain and swelling in the elbow had completely disappeared on admission and the joint appeared to be normal. The pharynx and tonsils were somewhat inflamed and the latter were slightly swollen. On the skin over the right knee-joint were two small pustules, and there was a similar one on the left knee. There was a crop of herpetic vesicles round the mouth. The patient's general condition was good. For the first ten days the temperature ranged between 101·5° and 103°. During this time the headache and rigors continued with spasmodic attacks of pain in the affected joint. After this the temperature assumed a remittent type, finally falling to normal on Dec. 14th. On the second day after admission an exploratory puncture was made into the right knee-joint and some sero-purulent fluid was withdrawn. Aspiration was repeated several times, the withdrawal of fluid from the joint affording much relief. The swelling of the joint remained for ten days after admission and then slowly subsided. The patient was discharged cured on Dec. 19th.

Bacteriological examination.—A full examination was made on the second day of the fluid withdrawn from the joint and of the contents of the pustules. Each of these was found microscopically to contain numerous capsulated diplococci the appearance of which was exactly typical of diplococcus pneumoniæ. Cultures made from these two sources on to agar produced a pure growth of characteristic dew-drop colonies. Some of the pus from the joint was injected into several mice and rabbits, both subcutaneous and intraperitoneal injection being employed. None of the animals died, though some of the mice were obviously ill. But it was found that the virulence of the organisms contained in the pus could be raised by two successive passages through animals to a point at which they were able to produce a fatal result. On the third day after admission a bacteriological examination was made of (1) blood drawn from the median vein; (2) milk squeezed from the breasts; and (3) urine. In each case direct microscopical examination gave a negative result but cultures made in peptone broth yielded a typical growth. These bacteriological examinations were repeated on the fifth and tenth days after admission with a similarly positive result but on the fourteenth day the result was negative.

Comments.—The author refers to the slight inflammation of the tonsils as being the probable initial lesion in this case but he says that there was no exudation or membrane in that region of which a bacteriological examination could be made Peculiar interest attaches to the wide dissemination of the organisms which is in surprising contrast to the slight severity of the illness. We have failed to find any other record of the isolation of the pneumococcus from the milk and the urine.

The following case, though not strictly primary, is mentioned here on account of the close resemblance which it bears to the laboratory experiments of Ausset, described above.

CASE 5. (Nattan-Larrier, 1905).—This concerns a male infant, born on Sept. 5th, after a long and tedious labour, the presentation being left occipito-anterior. The forceps was not used. At birth the child was found to have a hare-lip, otherwise his condition was satisfactory. The mother was quite healthy. Three days after birth the edges of the hare-lip were freshened and united by sutures. The wound in the lip did not heal well and on Sept. 12th there was a slight serous oozing from it, which on the 15th was distinctly purulent. The child's general condition did not, however, suffer until some days later (the 20th) when there were loss of appetite and vomiting. On the 24th the mother noticed that the boy cried when laid on his right side or when the right shoulder was touched; the general condition was unsatisfactory and the child was losing weight. Two days later he was gravely ill and was admitted to hospital. The shoulder was swollen to the size of a mandarin orange and the skin over the joint was red and œdematous; deep fluctuation could be felt. The spleen was enlarged. The temperature was 100·4° F. Death occurred on the next day. At the post-mortem examination 50 grammes of thick yellow pus were found in the cavity of the shoulder-joint. This pus contained in large numbers an organism which satisfied all of Koch's postulates as to its identity with the pneumococcus. The discharge from the lip was not examined until after death when it also was found to contain numbers of pneumococci. No trace of pneumococcal infection was found in any other part of the body.

Comments.—Nattan-Larrier, with reason, supposes that the right shoulder suffered some injury during labour. Such an event is not uncommon and might in this case explain the localisation of the infective process. If this be so, the injury would exactly correspond to the aseptic traumatism employed by Ausset, whilst the entry of the organisms through the wound in the lip would be closely analogous to subcutaneous inoculation.

Conclusions—1. Primary pneumococcal arthritis is apparently of rare occurrence in adults. 2. In children it is less uncommon. 3. The path of infection is the blood stream, to which the organisms gain access through some slight and unnoticed area of injury. This is in all probability situated in the mouth, naso pharynx, or middle ear and the relative frequency of this form of arthritis in infants and young children may be connected with their susceptibility to inflammatory conditions of these regions. 4. The infection is usually localised at first in one joint and may remain so; on the other hand, it may become generalised. 5. The *death-rate in the primary form* compares very favourably with that of secondary pneumococcal arthritis This may be accounted for by the usual restriction of infection in the former, whereas the *latter generally implies* a more or less *pronounced* septicæmia. 6 It is probable that the records available do not convey an accurate idea of the frequency of this form of arthritis, as many slight cases, which recover without surgical interference, must escape bacteriological examination.

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A CASE OF CONGENITAL HYPERTROPHY OF THE PYLORUS.

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THE rarity of this disease and the absence of agreement amongst the chief authorities as to the best treatment of it make the publication of every *case advisable. The following* is a brief *summary of the main symptoms as expressed by* most of the writers on the subject From 80 to 85 per cent. of the cases are in *males*. The family history is unimportant The symptoms do not appear until the baby is about a month old and then the primary symptom is persistent, intractable, copious, forcible *vomiting which is* uninfluenced by *diet. No* apparent cause for the vomiting exists. The *characteristic* feature of the vomiting is its forcibleness. It is not frequent and *there is* no bile in the vomit. There are progressive loss of weight, visible gastric peristalsis, a tumour in the pyloric region, dilatation *of the* stomach, constipation as a rule, and a normal or subnormal temperature.

The patient in my case was born on Oct. 25th, 1905, and was a fine, healthy boy. At first he was fed at the breast and seemed to be doing well but on Nov 16th, as he *did not* seem to be gaining weight he was fed on a mixture of cow's milk (one part) and barley water (*two parts*), *two* ounces every two hours. On the 19th, as there *was no improvement he was* given the same amount of a mixture of milk (two parts) and barley water (*three parts*) with one drachm of cream in each ounce. There was no improvement, however, *on this* food and the child became very constipated. On the 20th he vomited for the first *time* at *9* A M., about an hour after a feed. The amount of the vomit was about four ounces. It consisted only of undigested food The vomiting came on suddenly without obvious cause and was very forcible, the *contents of the* stomach being vigorously pumped up in big *gushes*. About 6 P.M. on the same day a second vomit of about three *ounces* occurred. The average capacity *of the stomach* of a baby of a month old being about from two and a half ounces *to three* ounces the stomach in this case was already dilated at least a third. The *temperature* was *normal*; there did not seem to be any abdominal pain and the tongue was clean. On the 21*st* the food was changed to equal parts of milk, lime-water, and water, but the baby vomited again *twice* at the same hours, about the same amount, and in the same way.

Dr. Robert Hutchison saw the baby on Nov. 22nd. The question of hypertrophy of the pylorus was *raised but dismissed because no* gastric peristalsis could be seen This was no doubt [illegible] he fact that the baby vomited shortly before examination. Vomiting occurred *on this day the same* as previously Wasting was *now* obvious to the eye. The epigastrium was prominent. The temperature was 97·8° F. The food was changed to a mixture of peptonised milk (one part) and water (two parts) with one drachm of milk sugar in each feed. No benefit resulted *from this. Vomiting* continued as before. The temperature remained subnormal. Constipation was still troublesome. On the 24th one sixth of *a grain of mercury* with chalk was given three times a day but with no result. In the evening of *this day*, as vomiting *had already taken* place three times, no food but only hot water in doses of one drachm every half hour was given for six hours. The vomiting, however, continued. On the 25th the *food* was changed *to Allen* and *Hanburys* No. 1 and two grains of carbonate of bismuth were given every two hours. The child was by this time very wasted indeed The face was white and shrivelled, the eyes were sunken, and the lips were blue. The *skin was hanging* in loose folds on the arms and legs. The temperature was 97°. The epigastrium was full. Gastric peristalsis was clearly *seen. Dr. Hutchison saw the baby again* in the evening. The child was fed just *before* examination and gastric peristalsis was well *marked. No definite* pyloric tumour could be felt. A diagnosis of hypertrophy *of the pylorus* was made and the line of treatment adopted was that of washing out the *stomach* every day and feeding on peptonised milk (one part) and water (two parts) in *feeds* of half an ounce *every* hour. *The question of operation* was discussed on this occasion and also on Dec. 9th.

The *accompanying* chart tells the history from this date. The baby was *weighed after* the stomach had been washed out. He was *undressed completely* and *wrapped in a shawl* which was weighed alone afterwards. The temperature continued *subnormal* until Dec. 18th, when it rose to normal, where it has since remained. Constipation was a difficulty at first. On Nov 27th one-sixth of a grain of calomel was given every hour until the bowels acted. This was repeated on several occasions *until Dec. 11th. On* that day in *addition* to the milk one drachm of somatose was dissolved in ten drachms of cold water and two drachms of brandy were added; one drachm of this mixture was given after each feed. Also *two drachms* of maltine were *mixed* with eight drachms of water and *one* drachm of *the mixture* was added to each feed. The effect of the somatose on the constipation was excellent. The bowels, as a rule, after th acted *regularly. Once or twice the motions* were dark colour and slimy but this only lasted a day or two. February the somatose was discontinued but as constipati returned it was begun again. The weight steadily decreas until Dec. 11th in spite of the vomiting having become les The *daily records* during this period were as follow 6 pounds on Nov. 25th; 6 pounds 1 ounce on Nov. 26th 6 pounds 3 ounces on Nov. 27th; 6 pounds 2 ounces Nov. 28th; *5 pounds 15 ounces* from Nov. 29th to Dec. 2n 5 *pounds* 12 ounces on Dec. 3rd; 5 *pounds* 9 ounces Dec. 6th; and 5 pounds 7 ounces on Dec. 9th and 11th.

It is difficult to describe the appearance of the ba at the *beginning of December. Nobody* really believ that he would live. He was wasted to an extre degree and was so feeble that it was a *matter of surpri that* he was in existence at all. The dilatation the stomach continued for a long time. At the end February the stomach held six ounces easily, whereas th normal capacity *of* the organ at the age of four months only four ounces. Peristalsis was well marked until th middle of January when it disappeared. A pyloric tumo was *felt on* Dec. 4th *distinctly*, not very distinctly abo a fortnight later, and not at all *about the middle of Januar* The quantity of food taken is shown on the chart. At fir *half-ounce* feeds were given every hour. On Nov. 29th th was *increased to six drachms every* hour, on Dec. 1st to o ounce every hour and a half, on the 3rd *to* 12 drachms eve two hours, and on the 5th to *two ounces* every two hour and *on Jan. 1st to three* ounces every *two* and a half hour At first, though the baby *seemed* hungry, *he did not take* h food well. A few mouthfuls satisfied him and the *remaind of the feed had usually to be given* with a spoon. Howeve this passed off *about the* end *of December* and he has sin taken his food well from a bottle.

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No fluctuation could be detected in either place The lungs were quite healthy and no other evidence of disease could be found. The temperature on admission was 102·2° F.; on the following day it fell to normal and did not rise again above this level. The swelling at the back of the hand gradually disappeared during the next few days; that of the sterno-clavicular joint, however, slowly increased in size until fluctuation was felt, and this in spite of a complete absence of general symptoms. A sterilised pipette was introduced into the joint and a few drops of pus were withdrawn. This was found to contain a number of capsulated diplococci, which were proved to be identical with diplococcus pneumoniæ by means of cultures on artificial media and the inoculation of animals. After this the pain and swelling slowly diminished. For eight days they remained entirely absent, and then, without apparent reason, reappeared. Some pus was again withdrawn and examined with exactly similar results. Once more the local symptoms slowly subsided and the patient left the hospital completely cured six weeks after admission.

Comments—This case presents several points of interest · the sudden onset, resembling pneumonia; the short duration of the constitutional symptoms, the curious recrudescence of the inflammatory process in the sterno-clavicular joint without accompanying rise of temperature. Leroux regards the rheumatic changes in the joints as having been an important factor in determining the situation of the infective process.

CASE 3 (Allen and Lull, 1902).—The patient was a woman, aged 40 years, single, who sought admission to hospital on Jan. 24th on account of pain and swelling in the left knee of two days' standing. During the four days preceding admission she had suffered from "cramps in the abdomen." The patient was deeply offended at being asked if she had had gonorrhœa and absolutely refused to give any account of her illness. The general condition was good although the temperature was 101 4° F. On the following day the joint was distended with fluid and some thick, yellow pus was withdrawn with an aspirator. It was decided at once to lay open and thoroughly to cleanse the joint. On Jan. 27th the general condition was worse with delirium and high fever (103°). The leg was amputated above the knee. The stitches and gauze drainage wicks were removed on Feb. 3rd when two ounces of sero pus escaped. The tissues about the wound looked very unhealthy. On the following day the patient's condition was very serious with rigors, delirium, and high fever, the temperature reaching 108° just before death, which occurred that evening.

Bacteriological examination—The pus from the knee-joint was found to contain typical capsulated diplococci and cultures made from it yielded a growth characteristic of the pneumococcus. No experiments on animals were made. Cultures made from the blood during life remained sterile. Post-mortem examination revealed no other traces of pneumococcal infection.

Comments.—On account of the negative result of the bacterial examination of the blood Allen and Lull regard the fatal ending of this case as due to severe toxæmia, the organisms themselves being confined to the joint but disseminating their poisonous products throughout the body. If this supposition be correct the case is one of exceptional interest. It is, however, well known that the cultivation of organisms from the blood is a matter of some uncertainty and the failure of one attempt to do so cannot be considered as a proof of their absence unless confirmed by repetitions of the attempt.

CASE 4 (Luigi Fornaca, 1905).—The patient was a woman, aged 28 years, married, in the seventh month of pregnancy. On Nov. 15th while in apparent good health she was suddenly seized with severe headache, shivering, and a sense of general illness. Four days later she complained of intense pain in the right elbow and a few hours later in the right knee. She was admitted to hospital on Nov. 19th, the eighth day of illness. The right knee-joint was swollen to thrice its natural size, the skin covering the joint was tense but not reddened, and fluctuation could not be obtained, there were acute pain and tenderness on manipulation. The pain and swelling in the elbow had completely disappeared on admission and the joint appeared to be normal. The pharynx and tonsils were somewhat inflamed and the latter were slightly swollen. On the skin over the right knee-joint were two small pustules, and there was a similar one on the left knee. There was a crop of herpetic vesicles round the mouth The patient's general condition was good For the first ten days the temperature ranged between 101·5° and 103°. During this time the headache and rigors continued with spasmodic attacks of pain in the affected joint After this the temperature assumed a remittent type, finally falling to normal on Dec. 14th. On the second day after admission an exploratory puncture was made into the right knee joint and some sero purulent fluid was withdrawn. Aspiration was repeated several times, the withdrawal of fluid from the joint affording much relief. The swelling of the joint remained for ten days after admission and then slowly subsided. The patient was discharged cured on Dec. 19th.

Bacteriological examination—A full examination was made on the second day of the fluid withdrawn from the joint and of the contents of the pustules. Each of these was found microscopically to contain numerous capsulated diplococci the appearance of which was exactly typical of diplococcus pneumoniæ Cultures made from these two sources on to agar produced a pure growth of characteristic dew-drop colonies. Some of the pus from the joint was injected into several mice and rabbits, both subcutaneous and intraperitoneal injection being employed. None of the animals died, though some of the mice were obviously ill. But it was found that the virulence of the organisms contained in this pus could be raised by two successive passages through animals to a point at which they were able to produce a fatal result. On the third day after admission a bacteriological examination was made of (1) blood drawn from the median vein; (2) milk squeezed from the breasts; and (3) urine. In each case direct microscopical examination gave a negative result but cultures made in peptone broth yielded a typical growth. These bacteriological examinations were repeated on the fifth and tenth days after admission with a similarly positive result but on the fourteenth day the result was negative.

Comments.—The author refers to the slight inflammation of the tonsils as being the probable initial lesion in this case but he says that there was no exudation or membrane in that region of which a bacteriological examination could be made. Peculiar interest attaches to the wide dissemination of the organisms which is in surprising contrast to the slight severity of the illness. We have failed to find any other record of the isolation of the pneumococcus from the milk and the urine.

The following case, though not strictly primary, is mentioned here on account of the close resemblance which it bears to the laboratory experiments of Ausset, described above.

CASE 5 (Nattan-Larrier, 1905).—This concerns a male infant, born on Sept 5th, after a long and tedious labour, the presentation being left occipito-anterior The forceps was not used. At birth the child was found to have a hare-lip, otherwise his condition was satisfactory. The mother was quite healthy. Three days after birth the edges of the hare-lip were freshened and united by sutures The wound in the lip did not heal well and on Sept 12th there was a slight serous oozing from it, which on the 15th was distinctly purulent The child's general condition did not, however, suffer until some days later (the 20th) when there were loss of appetite and vomiting. On the 24th the mother noticed that the boy cried when laid on his right side or when the right shoulder was touched; the general condition was unsatisfactory and the child was losing weight. Two days later he was gravely ill and was admitted to hospital. The shoulder was swollen to the size of a mandarin orange and the skin over the joint was red and œdematous; deep fluctuation could be felt The spleen was enlarged. The temperature was 100 4° F. Death occurred on the next day At the post-mortem examination 50 grammes of thick yellow pus were found in the cavity of the shoulder-joint. This pus contained in large numbers an organism which satisfied all of Koch's postulates as to its identity with the pneumococcus. The discharge from the lip was not examined until after death when it also was found to contain numbers of pneumococci. No trace of pneumococcal infection was found in any other part of the body.

Comments.—Nattan-Larrier, with reason, supposes that the right shoulder suffered some injury during labour. Such an event is not uncommon and might in this case explain the localisation of the infective process. If this be so, the injury would exactly correspond to the aseptic traumatism employed by Ausset, whilst the entry of the organisms through the wound in the lip would be closely analogous to subcutaneous inoculation

Conclusions—1 Primary pneumococcal arthritis is apparently of rare occurrence in adults. 2. In children it is less uncommon. 3. [illegible] of infection is the blood stream, to which the organisms gain access through some slight and unnoticed area of injury. This is in all probability situated in the mouth, naso-pharynx, or middle ear and the relative frequency of this form of arthritis in infants and young children may be connected with their susceptibility to inflammatory conditions of these regions. 4. The infection is usually localised at first in one joint and may remain so; on the other hand, it may become generalised. 5. The death-rate in the primary form compares very favourably with that of secondary pneumococcal arthritis. This may be accounted for by the usual restriction of infection in the former, whereas the latter generally implies a more or less pronounced septicæmia. 6. It is probable that the records available do not convey an accurate idea of the frequency of this form of arthritis, as many slight cases, which recover without surgical interference, must escape bacteriological examination.

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Middlesex Hospital, W.

A CASE OF CONGENITAL HYPERTROPHY OF THE PYLORUS.

BY J. W. ROB, M.D. CANTAB.

THE rarity of this disease and the absence of agreement amongst the chief authorities as to the best treatment of it make the publication of every case advisable. The following is a brief summary of the main symptoms as expressed by most of the writers on the subject. From 80 to 85 per cent. of the cases are in males. The family history is unimportant. The symptoms do not appear until the baby is about a month old and then the primary symptom is persistent, intractable, copious, forcible vomiting which is uninfluenced by diet. No apparent cause for the vomiting exists. The characteristic feature of the vomiting is its forcibleness. It is not frequent and there is no bile in the vomit. There are progressive loss of weight, visible gastric peristalsis, a tumour in the pyloric region, dilatation of the stomach, constipation as a rule, and a normal or subnormal temperature.

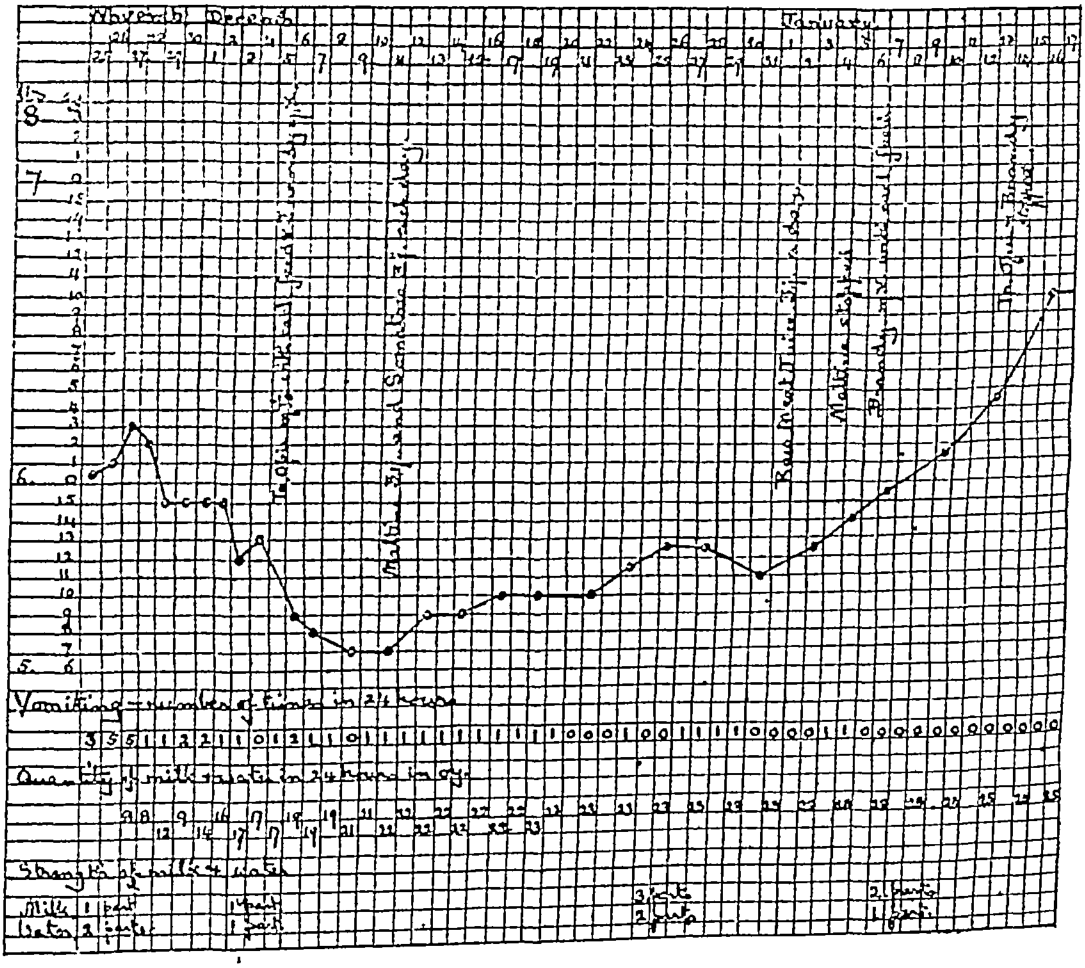
The patient in my case was born on Oct. 25th, 1905, and was a fine, healthy boy. At first he was fed at the breast and seemed to be doing well but on Nov. 16th, as he did not seem to be gaining weight he was fed on a mixture of cow's milk (one part) and barley water (two parts), two ounces every two hours. On the 19th, as there was no improvement he was given the same amount of a mixture of milk (two parts) and barley water (three parts) with one drachm of cream in each ounce. There was no improvement, however, on this food and the child became very constipated. On the 20th he vomited for the first time at 9 A.M., about an hour after a feed. The amount of the vomit was about four ounces. It consisted only of undigested food. The vomiting came on suddenly without obvious cause and was very forcible, the contents of the stomach being vigorously pumped up in big gushes. About 6 P.M. on the same day a second vomit of about three ounces occurred. The average capacity of the stomach of a baby of a month old being about from two and a half ounces to three ounces the stomach in this case was already dilated at least a third. The temperature was normal; there did not seem to be any abdominal pain and the tongue was clean. On the 21st the food was changed to equal parts of milk, lime-water, and water, but the baby vomited again twice at the same hours, about the same amount, and in the same way.

Dr. Robert Hutchison saw the baby on Nov. 22nd. The question of hypertrophy of the pylorus was raised but dismissed because no gastric peristalsis could be seen. This was no doubt due to the fact that the baby vomited shortly before examination. Vomiting occurred on this day the same as previously. Wasting was now obvious to the eye. The epigastrium was prominent. The temperature was 97·8° F. The food was changed to a mixture of peptonised milk (one part) and water (two parts) with one drachm of milk sugar in each feed. No benefit resulted from this. Vomiting continued as before. The temperature remained subnormal. Constipation was still troublesome. On the 24th one-sixth of a grain of mercury with chalk was given three times a day but with no result. In the evening of this day, as vomiting had already taken place three times, no food but only hot water in doses of one drachm every half hour was given for six hours. The vomiting, however, continued. On the 25th the food was changed to Allen and Hanburys No. 1 and two grains of carbonate of bismuth were given every two hours. The child was by this time very wasted indeed. The face was white and shrivelled, the eyes were sunken, and the lips were blue. The skin was hanging in loose folds on the arms and legs. The temperature was 97°. The epigastrium was full. Gastric peristalsis was clearly seen. Dr. Hutchison saw the baby again in the evening. The child was fed just before examination and gastric peristalsis was well marked. No definite pyloric tumour could be felt. A diagnosis of hypertrophy of the pylorus was made and the line of treatment adopted was that of washing out the stomach every day and feeding on peptonised milk (one part) and water (two parts) in feeds of half an ounce every hour. The question of operation was discussed on this occasion and also on Dec. 9th.

The accompanying chart tells the history from this date. The baby was weighed after the stomach had been washed out. He was undressed completely and wrapped in a shawl which was weighed alone afterwards. The temperature continued subnormal until Dec. 18th, when it rose to normal, where it has since remained. Constipation was a difficulty at first. On Nov. 27th one-sixth of a grain of calomel was given every hour until the bowels acted. This was repeated on several occasions until Dec. 11th. On that day in addition to the milk one drachm of somatose was dissolved in ten drachms of cold water and two drachms of brandy were added; one drachm of this mixture was given after each feed. Also two drachms of maltine were mixed with eight drachms of water and one drachm of the mixture was added to each feed. The effect of the somatose on the constipation was excellent. The bowels, as a rule, after this acted regularly. Once or twice the motions were dark in colour and slimy but this only lasted a day or two. In February the somatose was discontinued but as constipation returned it was begun again. The weight steadily decreased until Dec. 11th in spite of the vomiting having become less. The daily records during this period were as follows: 6 pounds on Nov. 25th; 6 pounds 1 ounce on Nov. 26th; 6 pounds 3 ounces on Nov. 27th; 6 pounds 2 ounces on Nov. 28th; 5 pounds 15 ounces from Nov. 29th to Dec. 2nd; 5 pounds 12 ounces on Dec. 3rd; 5 pounds 9 ounces on Dec. 6th; and 5 pounds 7 ounces on Dec. 9th and 11th.

It is difficult to describe the appearance of the baby at the beginning of December. Nobody really believed that he would live. He was wasted to an extreme degree and was so feeble that it was a matter of surprise that he was in existence at all. The dilatation of the stomach continued for a long time. At the end of February the stomach held six ounces easily, whereas the normal capacity of the organ at the age of four months is only four ounces. Peristalsis was well marked until the middle of January when it disappeared. A pyloric tumour was felt on Dec. 4th distinctly, not very distinctly about a fortnight later, and not at all about the middle of January. The quantity of food taken is shown on the chart. At first half-ounce feeds were given every hour. On Nov. 29th this was increased to six drachms every hour, on Dec. 1st to one ounce every hour and a half, on the 3rd to 12 drachms every two hours, and on the 5th to two ounces every two hours, and on Jan. 1st to three ounces every two and a half hours. At first, though the baby seemed hungry, he did not take his food well. A few mouthfuls satisfied him and the remainder of the feed had usually to be given with a spoon. However, this passed off about the end of December and he has since taken his food well from a bottle.

On Dec. 5th as the child was only vomiting once a day and the amount was not so large as formerly nor the vomiting so forcible it was decided to wash out the stomach on alternate days and to give one-eightieth of a minim of tincture of opium 20 minutes before each feed. This was done by putting one minim of tincture of opium with one ounce of compound infusion of orange peel and making up to ten ounces with water and giving one drachm for a dose.[1] Even this minute dose of opium had an effect, for on Dec. 7th the pupils were very small. The baby was always more comfortable after having had his stomach washed out. He took a feed afterwards and went to sleep. At first the stomach was usually washed out at about 5 P.M. but as it was found that he usually vomited about 2 P.M the time was changed on Dec. 20th to 1 P.M. The weighing of the child was commenced on Nov 25th and was continued at intervals of two or three days up to Feb. 8th, 1906. (See the accompanying chart). The decline from Nov. 25th to Dec. 11th has been already mentioned. After this latter date there was a continuous rise in weight, the successive stages of which were as follows: 5 pounds 9 ounces on Dec. 13th and 15th; 5 pounds 10 ounces on Dec. 17th, 19th, and 22nd; 5 pounds 12 ounces on Dec. 26th and 28th and Jan. 3rd; 5 pounds 15 ounces on Jan. 7th; 6 pounds 4 ounces on Jan. 13th; 6 pounds 10 ounces on Jan. 16th and 19th; 6 pounds 15 ounces on Jan 25th; 7 pounds 3 ounces on Jan. 29th; and 7 pounds 13 ounces on Feb 8th.



Clinical chart showing weight of infant and quantity of food taken.

After the end of December vomiting practically ceased. The strength of the food was increased on Dec. 3rd to equal parts of peptonised milk and water, on the 25th to three parts of milk and two of water, on Jan. 7th to two of milk and one of water, and on the 21st to three of milk and one of water. One drachm of milk sugar was put in each feed. Raw meat juice was tried on Dec. 5th but caused vomiting. On Jan. 1st it was tried again. Only one drachm was given in the day but as no trouble ensued it was increased to four drachms in the day. This was discontinued in February. The days on which the stomach was washed out are the same as those on which the weight is recorded on the chart.

The later history is that there have been no vomiting and a steady gain in weight of nearly an ounce a day The weight was 8 pounds on Feb. 25th, 9 pounds 5 ounces on March 21st, 10 pounds 1 ounce on March 31st, 11 pounds on April 16th, 12 pounds on May 6th, and 13 pounds 10 ounces on June 2nd. The temperature has remained normal. The capacity of the stomach was about six ounces at the middle of April. There is now no fulness of the epigastrium and no peristalsis can be seen. The baby is fat and vigorous and looks healthy and is quite happy. He has cut two teeth. On April 10th one feed a day of unpeptonised milk diluted with an equal quantity of water was started and taken so well that on April 16th two similar feeds a day were begun. On May 5th alternate feeds of peptonised and unpeptonised milk were begun and at the end of May peptonised milk was discontinued and only unpeptonised milk given. One grain of sodium citrate was added to each ounce of unpeptonised milk.

Weybridge

SOCIETY OF ARTS.—The Council of the Society of Arts has awarded the society's silver medal to the following, among other, readers of papers during the session just completed. Dr. William Arthur Aikin, Aspects of Voice Development, Mr. Leon Gaster, A M I E E, Progress in Electric Lighting, Professor Thomas Oliver, Bridge Building by means of Caissons, and Dr. George A. Grierson, C I.E, the Languages of India

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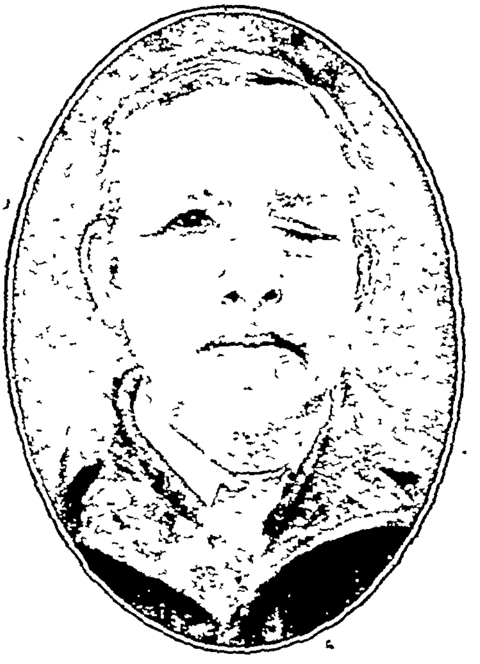
[1] See THE LANCET, Nov 25th, 1905, p 1544

ORIENTALISM: OR A CHANGE TO AN EASTERN APPEARANCE.

By H. WORK DODD, F.R.C.S. ENG., &c.,
OPHTHALMIC SURGEON TO, AND CLINICAL LECTURER ON OPHTHALMIC MEDICINE AND SURGERY AT, THE ROYAL FREE HOSPITAL, ETC.

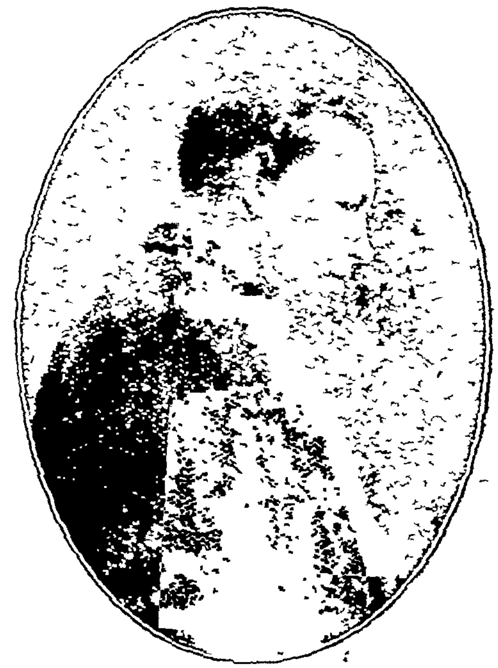
THE patient, a man, aged 47 years, complained of weakness and change of appearance. He seemed to have been quite healthy till the year 1898. He then developed ptosis of the right eyelid, followed shortly by ptosis and external strabismus on the left side. He was admitted to the Royal Westminster Ophthalmic Hospital in the autumn of 1898 and the right eyelid was successfully operated on by Mr. Dodd. In June, 1899, the patient was admitted into the Royal Free Hospital, under the care of Dr. H. Sainsbury. He was then complaining of general weakness and vague alterations of sensation. At this time, on careful examination, nothing abnormal was detected in any organ or system. The patient remained in the hospital for three weeks, during which time his general condition somewhat improved, though he remained nervous and depressed. After a holiday of some weeks' duration he was able to return to work and during the next seven years, though generally able to work, he remained weak.

FIG. 1.



Mr. H. Work Dodd's original case.

FIG. 2.



Mr. H. Work Dodd's original case.

The patient is one of nine children, eight of whom are living and healthy. He was born in London, where he had lived most of his life. He has always been in a position to obtain good food and clothing. He contracted syphilis 18 years ago, for which he was treated for eight months. The patient's family history is not of importance beyond the fact that one of his eight children has interstitial keratitis.

The patient at present is 5 feet 8 inches in height, is spare, with a marked stoop. His complexion is sallow, his lips are thick, everted, and bluish. His nose is fleshy and abnormally flexible and his hair is sparse. His whole aspect is distinctly Tartar or Mongolian in type. He is saved from being definitely Mongolian in face by the tilt of his eyes, which is not upwards, and their colour, which is a dullish blue. His skin is soft, thin, and delicate like a woman's, and it is normal in moisture and elasticity. The electrical resistance of the skin is normal. The hair of the head is sparse, fine, and silky, it is mouse-coloured and tends to be light at the ends and has no gloss. The moustache is thin, short, and scanty. The chin and cheeks have a few scattered hairs but not sufficient to necessitate shaving. Over the pubic region are a few hairs but the axillæ and the rest of the body are quite hairless. The nails of the hands are normal but those of the feet are brittle and broken. The sweat glands secrete normally. The mucous membranes are normal. The teeth are fairly good. The circulatory and respiratory systems are quite normal. The alimentary system is normal. The liver can be felt just below the costal margin. The spleen is not felt. The urinary system is quite normal. Careful examination of the urine shows no abnormal constituents or deposits. The muscles generally are weak and flabby, especially those of the arms. All movements can be performed, but in the arms they are distinctly weak. Coördination is not good, either in the hands or the feet.

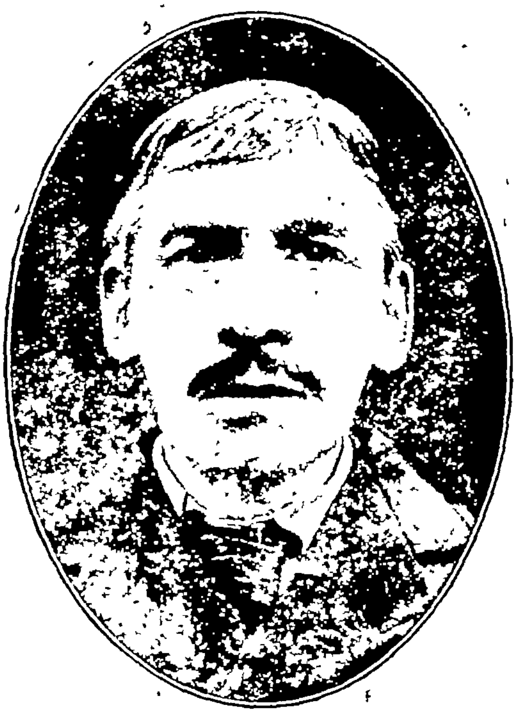
There are considerable alteration and impairment of sensation to touch, pain, heat, and cold. But these alterations are never constant. The third nerve is partially paralysed, as is shown by the ptosis of the left eye and the left external squint. The pupils are equal, normal in size, and react somewhat sluggishly. There is some hemiatrophy of the tongue on the right side and when protruded it inclines slightly to the right side. There are no other paralyses.

The knee-jerks are present, equal, and are not increased. There is no ankle clonus. The plantar reflex is normal. The abdominal reflexes cannot be obtained owing to rigidity. Defæcation and micturition are normal. Sexual desire and power are said to be completely lost. No enlarged glands can be detected. The thyroid gland cannot be felt. The testicles are smaller than usual, unequal in size, abnormally tender and soft, and give one the impression of being atrophied. A complete blood examination showed no abnormality. The patient always seems rather sleepy. His memory is somewhat bad, both for recent and long-standing events. The ophthalmoscope showed no abnormalities and the visual acuteness is normal in both eyes.

The above notes have been taken by Mr. O. F. H. Atkey, senior resident medical officer at the Royal Free Hospital, practically independently of me, to show an unbiased picture of the state of this man who has been under my observation off and on since the autumn of 1898, rather more than seven years, and who during that time has changed in a marked degree. When he first came to me he was a fine, upstanding, vigorous, athletic man. He then stood 5 feet 10¼ inches, and weighed 16 stones 4 pounds, was very muscular, and in no way cumbered with fat. He states that when a young man he beat all opponents as an amateur high jumper for about three years, clearing 6 feet 2 inches. He was florid; had a thick head of hair of a lightish brown colour, a thick, long, blonde moustache, otherwise his face was clean shaven, and he says that the growth of hair here was so rapid that he has had to shave a second time in the day if he wished to look especially smart in the evening. At this time I operated successfully on his right eyelid for ptosis; subsequently his left lid fell. The latter was not operated on from fear of the resulting diplopia.

In June, 1899, he came again to the Royal Westminster Ophthalmic Hospital to see me because he felt so ill generally and his appearance was so peculiar that I thought it better to transfer him to the Royal Free Hospital under the care of my colleague, Dr. Sainsbury, to whom I suggested that this might be a case of acute myxœdema. He was in the hospital for three weeks and nothing abnormal was detected in any organ or system. It was after this illness that the changes of appearance, &c., began to take place and these have continued until now he has practically changed his identity, for from being a finely developed erect man of 5 feet 10½ inches in height and 16 stones 4 pounds in weight, masculine, vigorous, athletic, with plenty of hair of a light brown colour, a long blond moustache and altogether fair in appearance, he has become in a few years smaller, stooping, 5 feet 8 inches in height, weighing 11 stones 11 pounds, he is emasculate and weak, his hair has changed to mouse colour, his moustache cannot grow a hair longer than a quarter of an inch and both are soft and sparse, his chin never needs a razor, his complexion is sallow, and his whole aspect is darker than before. His fellow workers have christened him "the Japanee," though I fancy the late war may have influenced them in the choice of this name, for his type is not quite Japanese. Formerly he was a cheerful, capable, quick-moving, intelligent man, with something of a sailor's readiness to "lend a hand" to anything that came along. Now, when not occupied, he is somewhat apathetic, a condition which adds something to his Eastern bearing. All this change has occurred without anyone being able to discover a cause and I need hardly say that he has been examined repeatedly and most thoroughly both by my colleagues and myself. The fact that he has had syphilis has naturally to be remembered but it must not be forgotten that the above mentioned alterations only began with the obscure illness for which he was in the Royal Free Hospital in 1899. I am reduced to thinking that possibly changes have taken place in some important elaborating structure, testicular, thyroid, or elsewhere. In this connexion the condition of the testicles is worth noting. There has been no local disease to explain the atrophy of these organs.

FIG. 3.



Dr. Harry Campbell's case.

FIG. 4.

Dr. Harry Campbell's case.

In July, 1904, Dr. L. Vernon-Jones sent me a man, aged 48 years, concerning his vision and I noticed that he had the characteristic appearance of my own patient. He had had a severe obscure illness in 1902 and since then the changes had taken place which rendered him remarkably like my case whom I subsequently sent to Dr. Vernon-Jones that he might examine him. He agrees with me that the two men must be suffering from the same condition. Here there is a very doubtful history of syphilis having occurred several years ago.

Another man, aged 46 years, has been under the care of my colleague Dr. Harry Campbell at the Hospital for Nervous Diseases, Welbeck-street, and he resembles strongly my original case. He says he has changed in appearance during the last few months and I have seen a photograph of him, taken some time ago, which corroborates his statement. When 19 years of age he had syphilis.

Naturally the extraordinary symptoms of the above cases have directed my attention to this peculiar state and have brought back to my mind other patients whom I realise now must be included in the same category. I remember a man, aged about 50 years, suffering from diabetes insipidus, who some years ago was an in-patient of the Royal Free Hospital, who had the same appearance as my patient, but I do not know if any change had taken place in his case or whether he had been of this curious type originally. I have searched for this man but unsuccessfully. Also I remember the late Mr. John Griffiths had under treatment at the Royal Westminster Ophthalmic Hospital a few years ago a man, aged about 50 years, who also came well into this class, but here, again, I do not know whether any change had taken place in his appearance but I do recall placing him by the side of my own case and demonstrating their peculiarities and resemblances to the students. Again I am unable to find this case.

I am certain that I have seen other cases of this type, though perhaps not so well defined, and just as we sometimes in our travels come across a slight myxœdema or acromegaly, so I think I notice occasionally people bearing the marks of the above condition in a greater or less degree. I do not call to mind seeing anything similar in women.

So far as I know these cases do not fall into any yet recognised class; it may be they form a type of themselves and I have been induced to publish these notes in the hope that others who may have had greater opportunities than I have had will bring forward other cases and by the aid of their experience add to our knowledge of this state.

Harley-street, W.

A CASE OF

EPITHELIOMA OF THE TONGUE WITH SECONDARY GROWTHS IN THE GLANDS OF THE NECK AND THE LIVER TREATED BY X RAYS,

WITH HISTOLOGICAL CHANGES IN THE PRIMARY AND SECONDARY GROWTHS.

By ROBERT KNOX, M.D. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.,
CLINICAL ASSISTANT, GREAT NORTHERN CENTRAL HOSPITAL.

THE interest of the following record of a case of carcinoma of the tongue centres in the apparent arrest of the primary growth and the changes occurring in the several glands in the neck. The histological examination of the sections from the affected tissues shows marked changes as a result of the direct application of the rays to the parts. The first gland to appear in the neck had most of the treatment applied to it and it showed the more advanced changes. The primary growth in the tongue was evidently influenced by the applications, though being further removed from the seat of application it did not get as thorough treatment as one could have wished. The changes in the primary growth and the secondary glandular ones show that all were influenced to some extent by the rays. The growths in the liver were not treated by this method and did not appear to be in any way altered; once this organ had become affected the downward progress of the case was very rapid.

Early in June, 1904, the patient consulted me about a swelling in the right side of the neck. He had noticed it several months before, but did not think it was anything serious. The swelling was glandular and situated under the angle of the jaw; it was rounded, irregular, and very hard. Suspecting a malignant growth in the tongue with a secondary glandular affection I sent him to the Great Northern Central Hospital, where he was seen by Mr. V. W. Low, who very kindly sent me the following report: "I have seen your patient and find that besides the indurated gland behind the angle of the jaw there is an indurated area about the size of the end of one's finger on the right side of the dorsum of the tongue about as far back as the epiglottis. I am very much afraid that it is an epithelioma and having regard to its situation it will mean an extensive operation to get rid of it." The patient was admitted to the hospital, anæsthetised, and a thorough examination of the parts was made, the diagnosis was confirmed, and an operation was recommended. This the patient refused to submit to and was discharged.

Recognising the impossibility of effecting any permanent benefit from the use of the rays I determined to try the use of this agent as a means of relieving the pain and possibly of arresting the rapidity of the growth. It was impossible to get at the original seat of the mischief in the tongue, so attention was directed to the gland in the neck which at the time was of about the size of a large walnut. Treatment was begun and continued daily, at first for about three weeks, then every alternate day until November, 1904. In all, the patient received 50 applications of about ten minutes' duration.

The apparatus used consisted of a 10-inch spark induction coil and turbinia jet interrupter worked from a direct lighting supply of 240 volts pressure. The tube was one of Messrs. Watson and Sons' "Improved Penetrator" pattern of medium hardness shielded by a screen of lead glass. Treatment commenced with the anti-cathode of the tube 12 inches away from the patient with an exposure of five minutes. After the seventh application the gland was noticed to be smaller and the exposure was increased to eight minutes, the tube being the same distance away as hitherto. After the tenth application a slight superficial reaction took place. The treatment was continued for four more days, when on account of the reaction it was discontinued for 14 days until the reaction subsided. Treatment was again commenced, the exposure being increased to ten minutes with the tube the same distance away. This treatment was continued for 16 times until it was again discontinued on account of a recurrence of the reaction. The later applications at first were given at regular times, a day being allowed between each. Towards the end of the treatment the applications were more irregular. When the symptoms of liver involvement became evident the treatment was stopped. The size of the swelling diminished considerably, pain almost disappeared, and the patient began to increase in weight; he was able to resume his employment and continued to work for several months.

Early in 1905 the patient began to complain of pains in the stomach. The lower border of the liver was found to be enlarged and a distinct nodular swelling could be felt upon its surface; later ascites appeared and he gradually sank from exhaustion. He died in July, 1905, and up to the time of his death the primary growth on the tongue gave no trouble and had not increased in size. The original gland did not enlarge. Later a smaller gland appeared to the outer side of the first one but it did not give rise to any trouble. Late in the history of the case a small nodular enlarged gland appeared on the left side of the neck. The patient died as a result of the secondary implication of his liver and was not at all inconvenienced by the primary mischief. Before his death he had several severe attacks of hæmatemesis which rapidly hastened his end.

A necropsy was conducted 24 hours after death and the following particulars were noted. The body was very emaciated. The abdomen was greatly distended by fluid and there was general dropsy of the lower extremities. On the right side of the dorsum of the tongue close to, but not involving, the epiglottis a small shrunken growth was found; it was about half an inch long by a quarter of an inch broad and appeared to involve the mucous and muscular structures of the tongue; it was papillary in character and was not particularly hard. The surrounding structures were pale and did not appear to be affected by the growth. What struck one was the small size, the shrunken character of the tumour, and the absence of any marked infiltration of surrounding parts. The larynx was normal. On the right side of the neck two glands, enlarged and matted together, were found; on the left side of the neck a smaller hard gland was present. The abdomen contained a large quantity of straw-coloured fluid. The liver was greatly enlarged and throughout its substance scattered masses of new growth of various sizes were seen. The peritoneum was unaffected. The kidneys were fatty but otherwise normal. The spleen was somewhat enlarged but was not invaded by new growth. The stomach was catarrhal and congested. The thoracic organs were not affected. The brain was not examined. The whole of the growth in the tongue was removed for examination, as were also the glands in the neck and one section from the liver. These I shall refer to later as—A. Primary growth from the dorsum of the tongue. B. Primary gland on the right side of the neck. C. Secondary gland on the right side of the neck. D. Gland from the left side of the neck. E. Section from growth in the liver.

HISTOLOGICAL EXAMINATION.

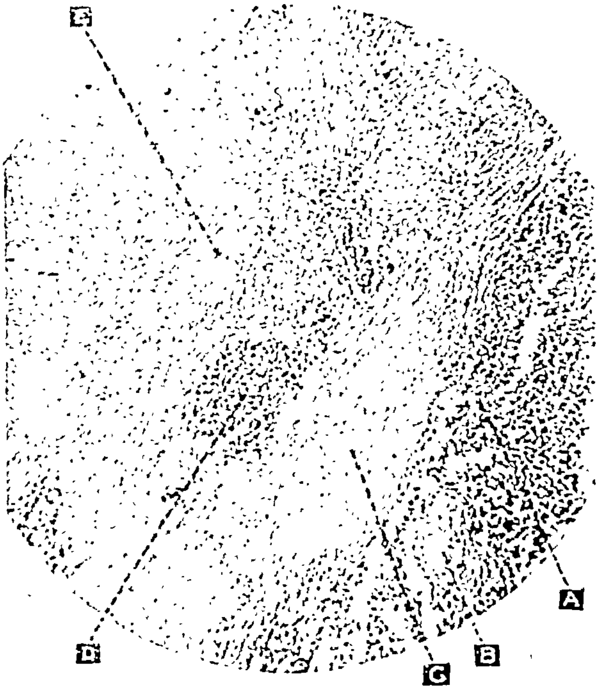
A. *Growth from the base of the tongue.*—This growth is a squamous epithelioma showing the typical pearls and large masses and clusters of epithelial cells, which for the most part are smaller than usual, invading muscular fibrous tissue. There is much round-celled infiltration present.

B. *Primary gland on the right side of the neck.*—The gland tissue is entirely replaced by a new growth which consists of a fibrous stroma in which exist large spaces blocked by epithelial cells. (Figs. 1 and 2.) Amidst the latter a few degenerate pearls are seen. The growth is an epithelioma in which the cells and nuclei are small and shrunken. Whole areas stain badly both as regards fibrous stroma and cancer cells. The fibrous stroma appears to be in excess and is involving the areas of new growth, causing degeneration of the cells. The gland section when examined fresh was much firmer than those from the other glands and was more cicatricial in character.

C. *Secondary gland on the right side of the neck.*—Gland tissue and epithelial cells are intimately interspersed throughout portions of the section, whilst for the most part nothing but new malignant epithelial growth is seen. This is in part surrounded by thickened gland capsule. The cells and nuclei differ in no way as regards general features from those seen in the two preceding sections—A and B. This section shows other differences; there is not nearly so much fibrous tissue, the reaction to staining is more marked both as regards the fibrous stroma and the cancer cells, the latter are in larger groups and appear more active, and the blood vessels are more enlarged. The gland has evidently not undergone the same amount of cicatrisation as in section B; the thickening is more marked at the periphery of the growth and shows itself as a thickening of the gland capsule. Epithelial pearls are not so evident in this section.

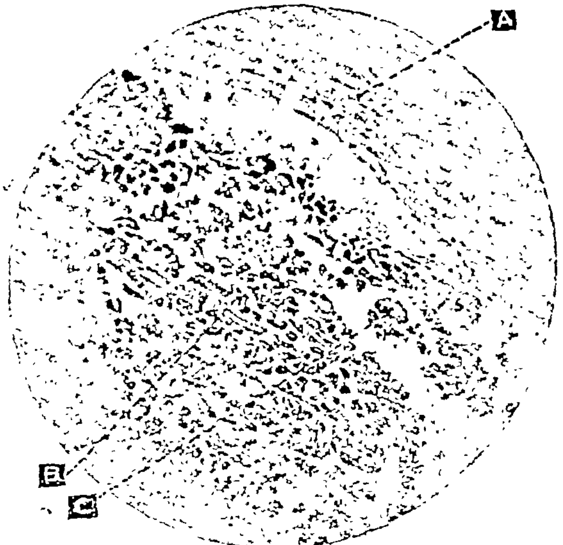
D. *Gland on the left side of the neck.*—This section shows

FIG. 1.



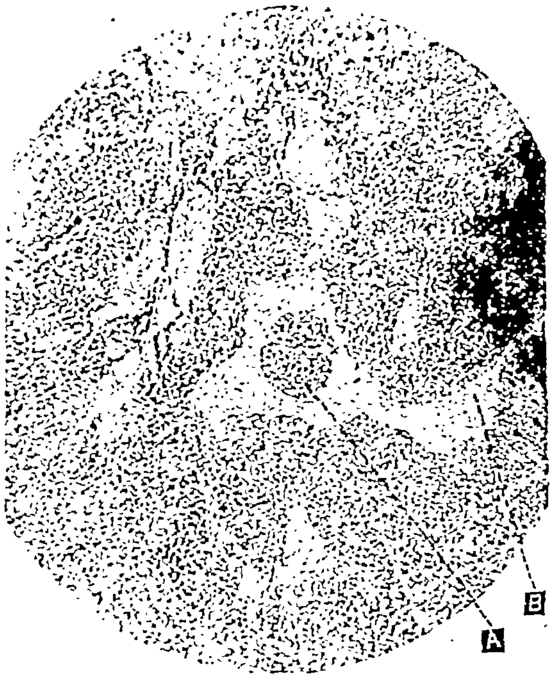
Section from the primary gland on the right side of the neck (magnified 50 diameters), showing several groups of new growth amidst connective tissue which has almost entirely replaced the original lymph gland tissue. The characteristic changes in this section are the large quantity of connective tissue with small-celled infiltration and the breaking up of the cancer masses by the connective tissue. Both the connective tissue and the cancer cells and nuclei stained faintly, showing a marked contrast in this respect to the section from gland D. A and D, New growth with small cell infiltration. B, Lymph gland tissue. C and E, Connective tissue replacing gland tissue.

FIG. 2.



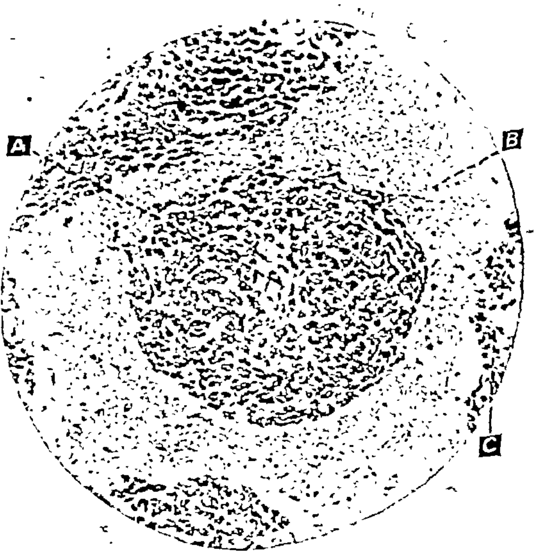
Section from the primary gland in the neck (magnified 150 diameters), showing a group of cancer cells in process of disintegration invaded by connective tissue and small cell infiltration. A, Connective tissue. B, Group of cancer cells and nuclei. C, Cancer cell with deeply stained nucleus.

FIG. 3.



Section from the gland from the left side of the neck (magnified 50 diameters), showing the gland tissue almost entirely replaced by new growth which stained deeply. A, Mass of new growth. B, Gland tissue.

FIG. 4.



Portion of the same section more highly magnified (magnified 150 diameters). A, Round-celled infiltration amidst new growth cells. B, Gland tissue showing commencing leucocyte infiltration. A and C, Groups of new growth.

columns of densely packed malignant epithelial cells. (Figs. 3 and 4.) Considerable free hæmorrhage has taken place into the growth. Epithelial pearls are well shown. In places the cells are very atypical, small, and shrunken, like those in sections A, B, and C.

E. *Section from secondary growth in the liver.*—This section shows liver tissue invaded by masses of malignant epithelial cells. There are areas of hæmorrhage throughout the section and groups of degenerated liver cells deeply pigmented—a condition of chronic venous congestion. The cancer cells are larger and stain more readily than in the other sections; they do not exhibit the shrinkage to the same extent as in the gland cancer cells.

A consideration of the progress of this case presents several points of interest. The disease was well established before treatment was undertaken. The patient had lost a considerable amount of weight in the early stages of the disease. He suffered pain in the neck which was relieved by the treatment. The primary growth in the tongue ceased to spread and the first glandular growth visibly diminished in size after he had had several weeks of treatment. He gained weight and was able to resume work. The histological condition of the parts examined shows that the rays had a direct and beneficial influence over the new growth in the tongue and glands. In all the cells were atypical, they were small and shrunken, and there was a considerable increase in the fibrous stroma in one of the glands. The one which had most of the treatment directly applied to it showed the most marked changes. It was more indurated than the others and the tissues did not stain equally. The condition of gland C indicated more malignancy than B; it appeared soon after treatment was stopped and presumably was not affected by the rays to the same extent. Evidently the action of the rays upon this gland did not appear to be inhibitory to the development of new growth. This is indicated by the appearance of glands C and D after treatment was discontinued. The gland removed from the left side of the neck showed much the same character as those from the right side. It was more vascular and there was free hæmorrhage in its substance. The fibrous element was not so evident and the cells stained more equally than in the preceding sections.

The great difficulty in the application of the x rays to diseases of deep-seated structures is the bar to their more frequent employment; the difficulty is one of technique. The danger of causing superficial lesions in an endeavour to reach a deep-seated structure is ever in one's mind. The beneficial effect of the x rays upon cancers of a superficial nature is quite proved by the statistics on the subject, and if the action occurs in these cases it would appear that if properly applied the result would be the same in the deeper structures. That some influence can be produced in deep-seated organs is, I think, proved by the histological changes recorded in the specimens examined from the patient; undoubtedly the disease was arrested in the growth on the tongue. The size of the growth when the patient died was little if any larger than when Mr. Low examined him at the hospital a year before his death, and up to the time of his death he did not have a symptom of distress from either that growth or from the enlarged glands on the neck.

It is probable that the new growth in the liver was already existent when the x ray treatment was commenced, so I do not think that it can be argued that the rays had any direct effect in producing metastasis to that organ. In many cases of cancer secondary growths occur very early in the course of the disease and they may be present for a considerable time before they give rise to pain or other symptom to indicate their presence in that organ.

EXPLANATION OF ILLUSTRATIONS.

Figs. 1 and 2 are from a section of the primary growth on the right side of the neck and Figs. 3 and 4 are from the gland on the left side of the neck. The changes in these two sections are sufficiently evident on comparison and do not call for special descriptions. Lack of space prevents me from illustrating the changes in the tongue growth, the second gland on the right side of the neck and in the liver, but the plates illustrate the histological changes which I wish to call attention to.

Highgate, N.

BOARDS OF GUARDIANS AND TUBERCULOSIS.—At a meeting of the Yeovil board of guardians held on June 15th it was decided, on the suggestion of the house committee, to communicate with the boards of adjoining districts with a view to action being taken to provide a sanatorium for pauper consumptives in the county of Somerset.

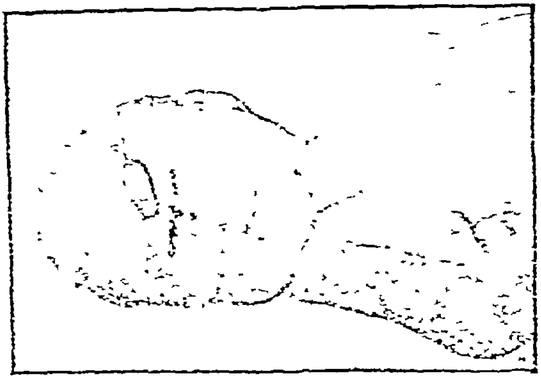
Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A RHINOCEPHALIC CYCLOPEAN MONSTER.

BY S. H. GREENE, L.S.A. LOND.

As a somewhat rare fœtal malformation the Cyclopean monster of which I append an illustration may be of interest. A few other cases have been reported, notably Craig's,[1] now in the museum of the Royal College of Surgeons of Edinburgh, which this in many points resembles. According to the classification of Geoffroy Saint Hilaire, this is the third or rhinocephalic grade of Cyclopean monster, in which the nose is represented by a proboscis inserted in the base of the forehead, beneath which is a single orbital cavity containing two orbits more or less intimately fused. Unlike Craig's case, this child, with the exception of the cyclocephalic malformation, was perfect, though, according to Hirst and Piersol,[2] other deformities of the head, face, or distant regions of the body, especially anencephalus and polydactylism, are frequently associated. The nose was represented by a pedunculated, cylindrical, somewhat pear-shaped body, about one inch in length, occluded but dimpled at the free extremity. In this it differs from other cases reported which have had one or more openings representing the nares at the free end. It contained a central cavity which communicated with a small foramen in the frontal bone. Below the proboscis was a small lozenge-shaped space, the lateral angles of which were continuous with the palpebral fissures. The eyelids were well formed and had two well-marked rows of eyelashes but were united. The floor of the space contained a single malformed orbit with a single optic nerve. The brain was very soft and it was difficult to trace the nerves but it differed from Craig's reported case, which had only one cerebral hemisphere with a single optic nerve that divided and passed to two laterally placed orbits, in having two hemispheres and one optic nerve which passed to a single, centrally situated orbit. This child, the sixth, was prematurely born at the eighth month, the birth being hastened by instruments in consequence of the collapsed condition of the mother, due to a severe flooding. The third stage of labour was normal and the mother made a slow but uninterrupted recovery.


The pedunculated proboscis is pinned up in order to show the united palpebral fissures and the lozenge-shaped central orbit. This unfortunately was not well shown in the original photograph. In the upright position of the child the proboscis hung down, covering the central orbit.

Excess of liquor amnii is said to be associated with this condition and even to be the cause through pressure of the premature closing of the anterior cerebral vesicle, but as I was only called in on account of the flooding and the membranes had ruptured two days previously I am unable to speak as to the quantity in this case. An interesting, though possibly only accidental, coincidence is the fact that the mother's second child, a boy, was born with only one arm.

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[1] Edinburgh Medical Journal, 1866-67, vol. xxxii., pp. 153-157.
[2] Hirst and Piersol: Human Monstrosities.

North Kensington, W.

THREE CASES OF JAUNDICE OCCURRING IN PERSONS SUFFERING FROM EXOPHTHALMIC GOITRE.

By M. D. EDER, M.R.C.S. ENG., L.R.C.P. LOND.

THE three cases were seen in 1903 and 1904 but were not consecutive cases of exophthalmic goitre. I relate them on account of the interest attaching to the jaundice with which they were associated. I suppose this is sufficiently rare since it is not mentioned in the text-books most current in England; it is, however, noted by Professor Dieulafoy in his "Pathologie Interne" (1901). It is unnecessary to give more than the salient points.

CASE 1.—The patient, a woman, aged 38 years, in good circumstances, had suffered from exophthalmic goitre for three years. She came under my notice in January, 1904, for jaundice. Palpitation was extreme. There was no cardiac enlargement. The pulse-rate was from 120 to 150. The temperature was normal throughout There was no abdominal pain, the stools were clay coloured. There was constipation. Bile was found in the urine. No gall-stones were passed at any time. A diagnosis of simple catarrhal jaundice was made. The jaundice disappeared in six weeks. I heard quite recently that there had been no recurrence and that otherwise the patient's condition was unchanged.

CASE 2.—This patient was a man who was first seen by me in April, 1904, for a rapidly enlarging thyroid gland. The cardiac symptoms were severe. Palpitation was extreme. I believed at times that I could make out some enlargement of the heart and on other occasions I was persuaded that there was none. The pulse was irregular in force and rhythm and was frequently uncountable. Some improvement ensued after some weeks' intermittent rest in bed—intermittent because the patient could not be persuaded to remain there. Whilst under treatment jaundice occurred. Bile was found in the urine and the stools were clay coloured. Diarrhœa with offensive stools was present. This symptom improved under treatment with benzo-naphthol and small doses of calomel. The cardiac symptoms remained unaltered. The diagnosis was catarrhal jaundice. From this condition recovery followed in from four to five weeks. This patient was subsequently treated at a London hospital with injections into the gland (presumably iodoform emulsion). I saw him after his discharge The gland was much harder but there was no abatement of his sufferings.

CASE 3.—The patient, a woman, was seen in October, 1904, for jaundice. The exophthalmic goitre was of ten years' duration. The apex beat of the heart was in the fifth space outside the nipple line; there was a systolic murmur at the apex conducted to the axilla. There were no other cardiac signs. The pulse was 80 and regular in force and rhythm. There had been no colic but there was tenderness in the right hypogastric and in the epigastric regions. There was bile in the urine. The stools were clay coloured. I did not see the patient very constantly but was informed that she passed several gall-stones some three weeks later, the jaundice quite disappearing shortly afterwards. I again saw her at Christmas, 1905. There had been no recurrence of the jaundice. The cardiac condition was unchanged; there was no palpitation. The pulse was regular. The ocular and nervous symptoms of Graves's disease were well marked. Besides the gall-stones there were two interesting features in the case. 1. The patient carried on an arduous midwifery practice, indeed, I believe the disease was already present when she commenced her studies. 2. The *absence* of palpitation with the *presence* of a murmur and alteration in the position of the apex beat. There was no good evidence of a mitral lesion.

At the time I regarded the presence of jaundice in these cases as purely fortuitous. If, however, as has been suggested, exophthalmic goitre be due to some toxic condition with its seat of action in the pituitary body, the origin of the toxin may be found in the alimentary system. Common symptoms, possibly of similar origin, are glycosuria, diarrhœa, vomiting, and indigestion, whilst the Addisonian pigmentation, when present, is usually most marked in the skin of the abdomen. On this assumption the jaundice in these three cases arising from some chronic toxæmia in the intestines would have a cause in common with that of the exophthalmic goitre.

Charlotte street, W.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF PSEUDO-RENAL DROPSY IN A CHILD.

(Under the care of Dr. SAMUEL WEST.)

A MALE child, aged 20 months, was admitted into St. Bartholomew's Hospital with considerable anasarca. The appearance of the face and other parts of the body was so typical that examination of the urine was thought unnecessary but when it was examined on the day after admission no trace of albumin was found. Heat, acetic acid and ferrocyanide of potassium, citric acid, and some other tests alike gave negative results. The œdema was considerable and involved the whole body. The abdomen was distended but tympanitic and free from fluid. The liver was enlarged and reached one inch below the ribs in the right nipple line, the spleen could not be felt. All the other organs seemed healthy. The child was very pale and feeble. The history obtained was that the child had been in good health till a severe attack of measles a month previously, which had been followed by frequent and severe diarrhœa. This had made the child very weak. Ten days before admission the swelling of the face and body developed and rapidly reached a considerable degree. The child presented no other symptoms, had no diarrhœa after admission, took his milk well, and rapidly improved. The only medicine given was a diuretic and bath. In a week the œdema had completely disappeared from the legs and body and in a few days more from the face. It is interesting to note that it vanished from the face last. The blood was examined and showed a small leucocytosis due to a slight increase of lymphocytes, but the red blood cells numbered 4,000,000 per cubic millimetre so that there was no special anæmia.

Remarks by Dr. WEST.—This is an instance of a condition not altogether rare yet one which has in some way escaped the notice in books which its interest entitles it to. Little babies may not infrequently develop œdema when in a condition of profound cachexia. The œdema then is usually not of this type but such as is met with both in adults and children when anæmic. It is an œdema of what may be called the cardiac type, being most marked in the dependent parts of the body, the legs when up and in the buttocks and back when in bed. This kind of œdema is of serious prognosis, for it only develops in cases of profound cachexia which may be incurable and then the case ends fatally. If, however, the cachexia be cured the œdema will disappear.

The type of œdema described in the present case is entirely different and may be directly comparable with that met with in acute nephritis, which it exactly resembles in appearance and distribution. That it is not renal in origin is proved by the clinical history and course of the case and by the fact that in fatal cases the kidneys have been carefully examined and found to be free from all signs of inflammation. The cases occur only in babies and young children in association with extreme malnutrition or anæmia. I do not know of any quite similar condition in the adult. It may develop very rapidly and in a few days becomes extreme. The dropsy may involve the serous cavities as well but only in the worst cases The urine is generally free from albumin of any kind or if it contains any it is a mere trace and rapidly disappears. The œdema sometimes after disappearing may return and then again disappear as the child convalesces

The case reported has another point of special interest in the fact that the œdema was the consequence of a severe attack of measles in a previously healthy child and was due to the malnutrition produced by severe diarrhœa which developed as a sequel and which was sufficient to produce the condition after only three weeks' illness.

The treatment is general and symptomatic, but of special drugs digitalis seems the best. The pathology of the condition is not any better known than is that of renal œdema, but I suppose admits of the same explanation—viz., a weakening of the capillary walls so that they permit the transudation of serum into the subcutaneous tissue, but this does not satisfactorily account for the fact that in most cases it is the subcutaneous tissue only that is affected.

The only book in which I have found this condition thought worthy of separate treatment is that of Holt. Henoch refers to a case of the kind and Pilatow describes a case of "anasarque sans albuminurie" in a boy, five years of age. This also followed troublesome diarrhœa and anasarca developed rapidly, but recovery was complete in three weeks. Eustace Smith refers to dropsy without albuminuria, as do the few writers who mention it at all, under the heading of nephritis. I have seen several instances similar to that described and did not realise until I looked up the literature of the subject that so little was written about it.

ROYAL DEVON AND EXETER HOSPITAL.

A CASE OF ACUTE LYMPHATIC LEUKÆMIA.

(Under the care of Dr. W. GORDON.)

FOR the notes of the case we are indebted to Dr. R. V. Solly, pathologist to the hospital.

The patient, a female, aged 13 years, an Italian, was seen by Dr. W. Gordon on March 9th, 1906, in consultation with Dr. J. A. W. Pereira of Exeter. She was then complaining of considerable pain in her left side (splenic region) and in the calves of both legs. The pain in the left side began on March 2nd and the pains in the legs three days later. Previously to the 2nd she had been quite well. She had been menstruating since the 5th and most excessively. She looked very anæmic and ill. Her gums were somewhat swollen and had bled a little but there was no ulceration or sign of septic stomatitis. The spleen was enlarged and acutely tender. The calves of the legs were also very tender. There were enlarged and tender glands on both sides of the neck, in both axillæ, and in the groins, some of those in the neck being as large as a small hazel-nut. Her temperature was 102° F. The microscope showed a very remarkable increase of white corpuscles and a stained film showed these to be almost wholly lymphocytes. She was admitted into the Royal Devon and Exeter Hospital on March 10th.

On admission the patient's state was found to be as above. The tongue was dry, rather coated with brownish fur; the gums were pale but were not bleeding. The spleen projected three and a half inches below the ribs and was three and a half inches broad just below the edge of the ribs. It was acutely tender. Liver dulness began at the sixth rib in the mammary line, and measured five and a quarter inches vertically. Its edge was tender. There was also a good deal of tenderness over the ribs in front of the chest and over the calves of the legs. The heart's apex beat was situated in the fifth space, almost a quarter of an inch external to the left mammary line. There was a reduplicated first sound but no bruits were present (position recumbent). No optic neuritis was present.

A blood count by Dr. Solly on March 11th gave the following result: hæmoglobin, 60 per cent.; red corpuscles, 2,912,000 per cubic millimetre; white corpuscles, 796,000 per cubic millimetre; colour index, about 1. Differential count of leucocytes: polymorphonuclear, 1·6 per cent., or 12,738 per cubic millimetre; small lymphocytes, 11 per cent., or 87,560 per cubic millimetre; large lymphocytes, 86 per cent., or 684,560 per cubic millimetre; and large mononuclears, 1·4 per cent., or 11,144 per cubic millimetre (large hyaline). No eosinophiles were seen. There were a very few normoblasts present. No mast cells were seen. The small lymphocytes were like those in normal blood, with very little protoplasm, the nucleus being large and taking the basic stain very deeply. The large lymphocytes were of about the size of a polymorphonuclear as a rule, but some were a little larger and others rather smaller. They consisted of a very large nucleus, taking the basic stain less strongly than the small lymphocytes, and around this nucleus generally a ragged narrow rim of protoplasm, more deeply basophile than the nucleus, but in others it was impossible to differentiate any protoplasm around the nucleus. The large mononuclears were like those found in normal blood and consisted of a rather faintly staining nucleus, round or kidney shaped, and abundant clear non-granular protoplasm. The stain employed was Leishman's. On March 12th a second blood count was made by another observer who found: red corpuscles, 2,368,000 per cubic millimetre; and white corpuscles, 848,000 per cubic millimetre.

The treatment employed was increasing doses of arsenic and the application of the x rays daily for ten minutes over the spleen. On March 11th slight epistaxis occurred, the menstrual period continuing. On the 13th the spleen was found to be only two and a half inches below the ribs and measured only three inches across, the liver dulness remaining the same. Both kidneys were easily felt, seeming to be somewhat enlarged. There was slight albuminuria. The patient was now free from pain and appeared generally better. The tonsils were noted to be much enlarged. On the 15th she was in a very excitable state, continually whining, although she said she was in no pain. The period still continued and there was bleeding from the gums. From this point she gradually became worse and died comatose on the 16th, the whole duration of her illness only being 14 days.

Necropsy.—At the post-mortem examination (which took place 17 hours after death) the body was found to be very anæmic but not emaciated. On opening the thorax the thymus was seen to be persistent. It was about three and a half inches long and one inch broad. On the surface of the heart were petechiæ and the muscle was very pale. The clots in the cavities of the heart were of a greyish-purple colour. The valves were normal. The lungs were pale but crepitant. The spleen weighed 26 ounces; it was rather soft and ecchymosed at its upper part. The liver weighed 3 pounds 2 ounces and was rather pale, fatty, and soft. Both kidneys were very pale. There were many nodules of about the size of a pea, of a pale yellow colour, scattered through the substance of both kidneys. There was no enlargement of the solitary or agminated intestinal glands. The uterus was normal but contained clot. The bronchial and mediastinal lymphatic glands were enlarged, soft, and hæmorrhagic and the glands in the neck and lumbar region were also enlarged. There was a large hæmorrhage situated in the white substance of the right frontal lobe of the brain and a smaller one in the white substance of the left parietal lobe. These hæmorrhages were evidently the immediate cause of death. The bone marrow of the femur was red and hæmorrhagic.

Histological examination of organs.—The bone marrow consisted almost entirely of large and small lymphocytes. A few myelocytes were seen, a fair number of normoblasts, and a few giant cells. As regards the kidney a section through the white nodules gave an extraordinary appearance. There was an enormous infiltration of lymphocytes, closely crowded together, and among them were seen remnants of the urinary tubules with the protoplasm of the cells, granular and much swollen. The glomeruli exhibited many lymphocytes in their substance, but it was difficult to say whether these were infiltrations or simply within the vessels. The liver cells were granular and separated from one another by lymphocytes. In parts were seen small accumulations which were evidently infiltrations similar, though of microscopical size, to those in the kidneys. The Malpighian corpuscles of the spleen were difficult to define as the whole pulp was densely infiltrated with lymphocytes. The lymphatic glands were not markedly altered from normal. The thymus and the tonsils both consisted of a network packed with lymphocytes. The lymphocytes in all these organs were mostly rather small and stained deeply and consisted apparently entirely of nucleus with no demonstrable protoplasm, but there were also present larger cells with a small amount of protoplasm round the nucleus, both protoplasm and nucleus taking the basic stain.

Remarks by Dr. GORDON and Dr. SOLLY.—The interest of the case depends in the first place on its extremely rapid course, rapid even for this disease, its entire duration, so far as can be reasonably determined, being only 14 days. In the next place a definite though very brief improvement took place under x ray treatment. Byrom Bramwell[1] has reported a case of lymphatic leukæmia treated by the x rays where there was a fall from 300,000 leucocytes per cubic millimetre to 80,000. In spite of this there was no general improvement and a distinct inflammatory reaction took place over the spleen. In spleno-medullary leukæmia, however, great improvement has taken place under this treatment, both as regards the general state of the patient and also the blood and condition. The red cells and the hæmoglobin both increase and the white cells fall both as regards number and percentage of myelocytes. The spleen also shows marked shrinking in size. C. Melland,[2] W. Ironside Bruce,[3] and W. B. Ransom,[4] have all reported cases where this occurred and J. C. G. Ledingham[5] reports the same change but sounds a warning note as regards the danger of x-ray treatment, quoting Halber and Linser, who were able by prolonged application of the x rays to small animals completely to deplete the blood of leucocytes, the lymphoid cells being affected first.

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[1] Edinburgh Medico-Chirurgical Society, THE LANCET, May 20th, 1905, p. 1340.

The number of leucocytes, over 800,000, was certainly enormous but cases of acute lymphatic leukæmia have been reported where the number of leucocytes present have been 918,000 (R. C. Larrabee[6]), 920,000 (Mitchell Stevens[7]), and 1,300,000 (J. G. Slade[8]). In this case the lymphatic glands, though enlarged, were not markedly changed and the main change had taken place in the kidneys which were studded with lymphoid nodules; in the spleen, where the pulp was hardly distinguishable from the Malpighian corpuscles; and in the bone marrow which consisted mainly of lymphoid tissue. This is interesting in the light of C. Melland's[9] paper contributing to the discussion on the rôle of the lymphocyte at the annual meeting of the British Medical Association in 1904, where he expresses the opinion that the large lymphocytes in the blood of acute lymphatic leukæmia are not true lymphocytes but retrograde myelocytes and a return to a more primitive and less differentiated form of cell and that both spleno-medullary and lymphatic leukæmia are myelogenous. D. G. Hall and F. G Bushnell,[10] in an account they gave at the Pathological Society of a case of acute lymphocythæmia and a case of myeloid splenic anæmia, stated "that there was evidence that leucocytes and erythrocytes had a common ancestor in lymphoid cells, from which cell there was no doubt both granular and non-granular leucocytes were derived in the fœtus. In the polymorphism of leucocytes of myelocythæmia might be seen the confirmation of this common origin of leucocytes, for all transitions existed between myelocytes, large lymphocytes, and polymorphonuclears in this disease." Cases of mixed cell leukæmia pointed in the same direction.

C. Melland in the paper quoted above gives photomicrographs of large lymphocytes, with a definite rim of protoplasm, just like those in our case, and also describes other large lymphocytes where a margin of neutrophile granules can be seen. There can be no doubt that these large lymphocytes which generally but not always predominate in cases of acute leukæmia are not normal constituents of the blood. Their fragility and peculiar morphological characters and staining reactions absolutely separate them from the large mononuclears of normal blood.

A. G. Phear[11] has reported a case of acute leukæmia where there were 19 per cent. of normal corpuscles and 81 per cent. of these large lymphocytes not normally found in the blood (327,000 per cubic millimetre). He also gives a very complete account of the histology of the affected organs (the liver, the spleen, the lymph glands, the tonsils, and the solitary glands of the large intestine) with excellent illustrations where the same large cells were seen. In his case, as in most cases of acute leukæmia, including ours, the thymus was persistent.

In Phear's case and in four cases reported by Rose Bradford and Batty Shaw in 1898[12] there were distinct ulceration of the gums and stomatitis, and Thomas McCrae[13] in reporting five cases of acute leukæmia states that in two of them there was distinct tonsillitis and that in one case streptococci, and in the other streptococci and staphylococci, were isolated from the blood. These cases are certainly so acute that they have all the appearance of an acute septic infection.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Mitral Stenosis and Pregnancy.

A MEETING of this society was held on June 12th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. HERBERT S. FRENCH and Mr. H. T. HICKS communicated a paper on Mitral Stenosis and Pregnancy. They considered that the dangers of pregnancy in cases of mitral stenosis have been over-stated and attributed the over-statement to the fact that previous statistics had been based mainly upon cases of mitral stenosis which had come under observation because heart failure had developed during, or soon after, pregnancy. Statistics so obtained tended to leave out of count all those subjects of mitral stenosis who go through pregnancy without developing cardiac symptoms. They had endeavoured to obviate this source of error by analysing the obstetric histories of 300 women over 20 years of age who had mitral stenosis with or without other valvular lesions. The cases had not been selected but were consecutive in the records of Guy's Hospital. As a result of their study of these cases they concluded:—"1. That comparatively few are sterile. 2. That the majority bear children well. 3. That when heart failure develops in relation to pregnancy it is very often not with the first pregnancy but after several. 4. That the treatment should be the same as for non-pregnant cases of mitral stenosis. 5. That it is not just absolutely to negative marriage in all women with mitral stenosis. The dogmatic 'No' of Jellett and of Porak is unjustifiable. It is right that the physician should make clear to the engaged couple or to their near relatives the risk run. He should distinguish between one case and another. The risk should not be minimised but it should not be exaggerated. Whether the woman marry or not, it is likely that she will not reach old age; but if she has survived 20 with good cardiac compensation the likelihood that pregnancy will accelerate the time of heart failure does not seem to be so great as is stated in the most recent text-books."

Sir DYCE DUCKWORTH said that he had been in the habit of declaring that it was unwise for women with mitral stenosis to marry and, although the statistics brought forward by Dr. French and Mr. Hicks tended to show that the risk was not so great as had generally been accepted, he did not feel inclined to alter his practice. He referred to the tendency of rheumatic subjects to propagate their proclivity towards the disease.

Dr. G. E. HERMAN thought that the risk encountered in marriage and pregnancy had been much exaggerated but that there was a distinct liability to cardiac failure during the last two months of pregnancy. Induction of labour was useful in such cases.

Mr. J. T. GARDNER said that he had been in the habit of regarding mitral stenosis in its relation to pregnancy as by no means a serious matter. With regard to the question of sterility statistics had been vitiated by the avoidance of pregnancy on the grounds that it was likely to prove dangerous to life.

Dr. C. O. GIBBES agreed in thinking that the danger of pregnancy to subjects of mitral stenosis had been over-estimated. He had seen the occurrence of pregnancy help in promoting cardiac compensation.

Dr. F. J. POYNTON gave statistics showing the greater frequency of rheumatism and of mitral stenosis in females as compared with males and explained how the mortality amongst the males was greater both during childhood and adult life. He considered that pregnancy rendered a woman subject to virulent forms of endocarditis and to severe attacks of chorea. The same tendency was observed in the inoculation of animals in a pregnant condition.

Dr. W. F. V. BONNEY referred to three cases of malignant endocarditis occurring as the result of puerperal sepsis in which the organism concerned was the ordinary streptococcus pyogenes.

Dr. W. S. A. GRIFFITH was disinclined to underrate the danger of mitral stenosis in pregnancy and said that a considerable number of cases died during the puerperium. Out of 28 cases of marked cardiac disease associated with pregnancy three died during, or soon after, confinement.

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[2] Brit. Med. Jour., July 1st, 1905

[3] THE LANCET, Jan. 27th, 1906, p. 211.

[4] Nottingham Medico-Chirurgical Society, THE LANCET, Feb. 17th, 1906.

[5] THE LANCET, Feb. 10th, 1906, p. 366.

[6] Boston Medical and Surgical Journal, THE LANCET, April 1st, 1905, p. 873.

[7] THE LANCET, Jan 21st, 1905, p. 153.

[8] Clinical Society, THE LANCET, March 4th, 1905, p. 572.

[9] Brit. Med. Jour, September, 1904.

[10] Pathological Society, THE LANCET, Feb. 24th, 1906, p. 518.

[11] Transactions of the Royal Medical and Chirurgical Society, 1901.

[12] Transactions of the Royal Medical and Chirurgical Society, 1898.

[13] Brit. Med. Jour., Feb. 25th, 1905.

OBSTETRICAL SOCIETY OF LONDON.

A Case showing (a) Uterine Contraction without Retraction and (b) Prolonged High Temperature of Nervous Origin.—Glycosuria in Pregnancy.—Exhibition of Specimens.

A MEETING of this society was held on June 6th, Dr. W. R. DAKIN, the President, being in the chair.

Dr. G. E. HERMAN read a paper on a case showing (*a*) Uterine Contraction without Retraction and (*b*) Prolonged High Temperature of Nervous Origin. He related a case of premature labour in which the advance of the child was arrested for more than 24 hours, although the uterus was regularly contracting, the passages were fully dilated, the child was small, and the pelvis was of ample size, the cause of the arrest being, in Dr. Herman's judgment, absence of uterine retraction. He thought the case important as exemplifying the difference between contraction and retraction of the uterus. Delivery was followed by high temperature lasting more than a fortnight, without physical signs of disease, without emaciation or enfeeblement, and therefore, he believed, entirely of nervous origin. As such prolonged high temperature of nervous origin was rare Dr. Herman had collected and quoted some similar cases recorded by others.—Dr. O. WILLIAMSON found himself unable to accept Dr. Herman's explanation of the delay in delivery. Dr. Herman had asserted that retraction was absent, but this statement took the form of an *ex cathedrâ* statement and rested upon no scientific proof. He criticised the definitions of uterine retraction that were given by Galabin, Dakin, and Pajot, and concluded that they were unsatisfactory. He considered that even during the first stage of labour contraction and retraction went hand in hand and he thought that this was shown by a study of frozen sections made on bodies of women dying in the first stage of labour. He believed retraction to be essential for the dilatation of the cervix. If this view were correct Dr. Herman was not justified in describing this as a case in which retraction was absent. The mere fact that the cervix was fully dilated was proof that retraction had occurred.—Dr. LEWERS said he did not think that Dr. Herman had made out his contention that the temperature in the case was of nervous origin. Here was a puerperal case in which there were repeated rigors and high temperature for a considerable period. The labour had not been uncomplicated, as the placenta had had to be removed by the hand. It had to be remembered that it was not always possible to make the hands absolutely sterile. In his opinion a case presenting the clinical features described was one of uterine phlebitis. He had been taught many years ago to recognise such cases by his old teacher, Sir John Williams, and had seen several such cases in consultation subsequently. The characteristic points were absence of physical signs, continued high temperature, and rigors. In some of these cases the diagnosis was subsequently confirmed by the phlebitis spreading to the main vein and causing swelling of the corresponding leg. Many of the patients were in very good condition between the rigors, not feeling very ill and with a fairly good appetite. A fair proportion of these cases recovered completely.—Dr. GRIFFITH agreed with Dr. Williamson in his remarks in regard to Dr. Herman's paper. Dr. Griffith had taught for some years that retraction was a function of all living muscles whereby a long muscle was enabled to adapt itself to its required length after contraction or elongation, and a hollow muscle to its contents by a state of gentle contraction with a minimum of muscle fatigue, ready for further contraction or expansion. He was of opinion that the delay in the birth of the child reported by Dr. Herman was rather due to the absence of efficient contraction than to the absence of retraction as suggested by him.—Dr. P. HORROCKS said that in the *Journal of Obstetrics and Gynæcology of the British Empire* for January, 1902, he had gone fully into the question of retraction of the uterus and had there defined it as "contraction followed by relaxation (that is, the passing off of the active contraction) but not by extension." In that paper and elsewhere he had shown that all muscles in the body had opponents which were themselves mostly, though not always, also muscles. For example, the biceps had as its opponent the triceps. Moreover, as far as he knew, no muscular fibre in the body, whether voluntary or involuntary, striped or unstriped, was capable after shortening by contraction of lengthening itself again to the former state. This had to be done by an opponent. Now during pregnancy the uterus contracted without the woman being aware of it, as these contractions were painless. During such a contraction the pressure within the amnion was increased, and when the active contraction passed off this increased pressure was brought into play to extend the uterine wall to its former state. It played the rôle of an opponent and there was no retraction. In labour, however, the membranes began to open up the cervical canal and each uterine contraction was followed by imperfect extension and so by slight thickening (retraction).—Dr. AMAND J. M. ROUTH asked whether the caput succedaneum had been present and whether a retraction (Bandl's) ring had been observed during version. He gave instances of cases where rigors and hyperpyrexia had occurred without obvious cause, some no doubt of nervous origin but others due to uterine phlebitis.—Dr. R. BOXALL said that he considered retraction was at least nearly related to tone. He could quite believe it possible that in some circumstances retraction might be absent when contractions were taking place. He had observed that in cases where the uterus was firmly retracted immediately after the completion of labour, 12 or 24 hours later the uterus was less firm and more bulky, showing that contraction was not persistent. He had seen several cases of acute septic infection in which the stress of the poison fell mainly on the blood-vascular system without local manifestations in which the patients complained of little or nothing.—Dr. HERMAN replied.

Dr. W. H. B. BROOK (Lincoln) read a short communication on three cases of Glycosuria in Pregnancy. In the first case 2½ per cent. of glucose and a small amount of lactose were found in the urine at the fifth month of the second pregnancy. In the other two cases ten grains of sugar to the ounce and 12 grains of sugar to the ounce were found in the urine respectively at the sixth month. The second case was that of a woman pregnant for the first time and the third case was that of a woman pregnant for the third time. The patients all went to full term and the sugar persisted in the urine up to the time of confinement. In all three cases, after the puerperium, the sugar disappeared from the urine. All these patients were put on an anti-diabetic diet and as regards medicinal treatment, aspirin, salicylate of soda, codeia, with an occasional dose of *pilula hydrargyri*, were the drugs employed. Dr. Brook referred to a paper that was read before the society in 1882 by Dr. Matthews Duncan.—Dr. F. H. CHAMPNEYS said that diabetes in pregnancy was different from the slight glycosuria which had been called "resorption diabetes," which was due to re-absorption of sugar of milk from the breasts. Diabetes in pregnancy sometimes ran a perfectly harmless course and sometimes was rapidly fatal. The difficulty really lay in the prognosis and he knew of no satisfactory method of formulating one at present.—Dr. J. S. FAIRBAIRN referred to a case which he had seen lately in a patient six and a half months pregnant. Sugar was proved to be glucose, and not lactose, by the phenyl-hydrazine and fermentation tests and by the polarimeter. The amount of the urine was not increased and the specific gravity was only slightly raised. He quite agreed that this slight glycosuria in pregnant women was something quite distinct from true diabetes. The small amount of glucose passed and the absence of the other symptoms of diabetes put cases of this kind into an entirely different category.—Dr. GRIFFITH referred to a case of diabetes which he had had an opportunity of watching for some years. The patient became pregnant two years ago and passed through her pregnancy and labour without any evidence of danger. He considered that this case was intermediate between the cases of temporary glycosuria reported by Dr. Brook and the very serious cases reported by Dr. Matthews Duncan.—Dr. BROOK replied.

The following specimens were exhibited:—

Mr. H. T. HICKS showed a specimen of Primary Carcinoma of the Body of the Uterus, with secondary growths in both ovaries.

Dr. R. HAMILTON BELL read the after-history of a case of Fibro myoma undergoing degeneration.

Mr. DOUGLAS DREW showed a specimen of Cancer of the Uterus associated with pregnancy which he had removed by abdominal panhysterectomy.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The quarterly general meeting of this association was held on May 31st at the Medical Society's Rooms, 11, Chandos street, London, W., under the presidency of Dr T Outterson Wood.—The President made a sympathetic reference to the serious illness, following upon deep domestic affliction, of Dr. Oscar T. Woods, medical superintendent of the Cork Asylum and a former president of the association. He proposed a motion of sympathy, which was seconded by Dr. Whitcombe and carried, and the honorary secretary was requested to convey that expression to Dr. Woods —Dr W R. Dawson (Finglas, Ireland) called attention to the serious effects upon lunacy administration in Ireland produced by the "Public Bodies Order" of the Local Government Board, one result of which was to place the medical officer in a subsidiary position to that of lay officers, thereby interfering with the proper administration of institutions for the insane. Many of the Irish asylums fell in with the new order of things early but the Richmond Asylum held out, and in order to meet its opposition the Local Government Board made certain concessions. Dr. Dawson showed that the matter was not a personal one but affected the position of every resident medical superintendent and therefore the efficient administration of lunacy in Ireland.—The President, Mr. H. F. Hayes Newington, Dr. D Yellowlees, Dr. T Drapes, Dr. Soutar, Dr. Bower, Dr. Whitcombe, and Dr. G E Shuttleworth supported Dr. Dawson's remarks, the last of these gentlemen giving a specific instance in which lay control had worked unsatisfactorily. The following propositions were unanimously passed .—

The Medico-Psychological Association of Great Britain and Ireland, having learned through reports in the public press of a movement in Ireland tending to lessen the authority of the resident medical officers of asylums, desires to express in the strongest manner its conviction that any such change would certainly result in injury to the patients and would be in direct opposition to all progressive and enlightened treatment of the insane.

That the resolution be delivered into the hands of the Right Hon. James Bryce, Chief Secretary to Ireland, the manner of such delivery being left to the discretion of the President of the association.

Dr. John Turner read a paper entitled "The Relation of Epilepsy to Changes in the Blood and Central Nervous System." He predicated that epilepsy was the result of a double cause or tendency, the one an inherently defective nervous system from a hereditarily vicious organisation and the other some morbid condition of the blood whereby it showed a special tendency to intravascular clotting and that the immediate cause of the fits was sudden stasis of the blood stream resulting from the blocking of cerebral vessels by these intravascular clots The fits he regarded as only a symptom of the general epileptic condition. Further investigations were related as to the coagulability of the blood in epileptics which was shown to increase at the times of petit mal, grand mal, and stasis. Forms of changes in the nerve cells were shown resembling those described as *réaction à distance*, and persistence of large numbers of subcortical nerve cells was shown. Dr. Turner also referred to experimental work by ligature of the cerebral arteries in the dog with acute forms of cell changes. The blood was shown to have a large number of blood plates and specimens were exhibited of different forms of intravascular clotting, probably in a large measure derived from amalgamation of the blood plates Small cortical hæmorrhages were also described and shown on the screen which could be traced to rupture of a vessel blocked by the clots of coagulated blood referred to.—Dr. E Goodall, in discussing the paper, said that he was not clear as to the connexion which existed between the obliterations in the vessels and the fits in the case of epileptics. Thrombi occurred in general paralytics and in other toxic states as well as in epilepsy and he did not believe that there was any definite evidence of the presence of toxins in the blood of epileptics. He had found that leucocytosis was especially common where there was either an exogenous or endogenous toxin, such as in acute delirious conditions and melancholia of the acute type but not so much in delusional insanity or hypochondriacal states. He desired to know whether the clots could be associated with the presence of a toxin —Dr. Steen asked whether the change in the cornu Ammonis was patent to the naked eye or detectable only under the microscope.—Dr Robert Jones said that Dr. Turner appeared to suggest that the epileptic brain was somewhat analogous to the anæmic brain, which (as shown by Leonard Hill's experiments) appeared to be exceedingly irritable and liable to cause convulsive movements upon very slight stimulation —Dr. Fletcher Beach expressed his pleasure at finding that the results of the careful scientific work of Dr. Turner accorded with the conclusions which he had himself arrived at many years ago in the case of epileptic idiots —Dr. Turner, in his reply, said that the changes were patent to the naked eye. He insisted that there must be a coöperation of two factors—the cells must be in a fit condition and there must be an exciting cause.—Dr. W. C Sullivan afterwards read a paper on Industrial Alcoholism. He divided the several industries into groups and characterised their various tendencies and habits as to alcoholic indulgence. He dealt with the difference between convivial drinking and "misery" drinking, the latter being greatly influenced by bad industrial circumstances and leading directly to fatal chronic intoxication In the prosperous mining districts of this country there was considerable drunkenness but comparatively little chronic alcoholism. He pointed out that industrial alcoholism could only be controlled by raising the standard of living and restraining facilities for obtaining alcohol during working hours and he suggested that this would be more powerful for good than educational influences —Mr. Newington referred to Dr. Sullivan's previous contribution on the same subject and Mr. W Bevan Lewis's work in a like direction. He drew particular attention to the recent discussions *regarding the manufacture* of whisky and particularly to the character of inebriation manifested by monkeys fed with certain alcohols on the one hand as compared with those of a monkey fed on what was termed patent-still whisky on the other It was most essential that in discussing alcoholism there should be a full realisation of what was underneath that term. He hoped that there would be set up some standard in regard to alcoholic drinks and that people who departed from that standard would be prosecuted.—Mr. J Carswell (Glasgow) strongly supported the conclusions arrived at by Dr. Sullivan, based upon an experience which was very extensive, and laid especial stress upon the baneful effects of the early opening of public-houses which was one of the most striking points in the paper.—Dr. Jones remarked that the question of alcohol appeared to be very much that of the *locus resistentiæ minoris*, insomuch that the mental effects were seen in asylums and the physical in hospitals, hospital patients presenting marked cirrhosis of glandular structures which was rarely seen in asylum patients, the mental results of alcohol being probably the result of a previous psychopathic taint. It was interesting to note that when physical conditions such as peripheral neuritis occurred they mostly arose in women. Those admitted into Claybury Asylum formed, directly or indirectly, almost 30 per cent. of the total admissions.—Dr. Sullivan replied, drawing attention to the brisk trade carried on by the publicans during the breakfast hour in industrial districts

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INCORPORATED MEDICAL PRACTITIONERS' ASSOCIATION.—The annual meeting of the members of this association was held at the Trocadéro Restaurant on June 14th when Dr. A. Percy Allan of Croydon was elected President for the ensuing 12 months. After the meeting the members and friends dined together, Dr. Allan being in the chair. He announced, in reply to the toast "Success to the Association," that the council had resolved, in regard to the forthcoming election of Direct Representatives on the General Medical Council, to recommend the members to support the candidature of Mr. George Brown, one of the present representatives, and Mr. Joseph Smith, President of the Association of Members of the Royal College of Surgeons of England, who was a candidate at the last election. In the course of the evening the retiring president, Mr. A Rivers-Willson, presented a testimonial to Mr. G Brown, consisting of an illuminated address and a cheque in recognition of his services to the association as honorary secretary and editor of the official journal. The address was as follows .—

This address is presented to Mr Geo. Brown, M.R.C.S Eng , L.S.A. Lond , member of the General Medical Council of Medical Education and Registration, on his retirement from the post of editor of the official journal of the association—the *General Practitioner* It was deemed a fitting opportunity by the members of the association of which he was the founder and also honorary secretary He has done much to obtain for general practitioners that recognition of their just rights and claims to which they are entitled. The subscribers and friends hope that he may be long spared to devote his energy to the maintenance of those principles he has so ably advocated for the last 40 years and that he may see his efforts crowned with success.

Signed on behalf of the Committee.
A. RIVERS-WILLSON, President.
J. POLLOCK SIMPSON, M.D., Secretary.

Reviews and Notices of Books.

A Treatise on Diagnostic Methods of Examination. By Professor HERMANN SAHLI, Director of the Medical Clinic, University of Berne. Edited, with additions, by FRANCIS P. KINNICUTT, M.D., Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York; and N. BOWDITCH POTTER, M.D., Visiting Physician to the City Hospital and to the French Hospital, New York. London and Philadelphia: W. B. Saunders and Co. 1905. Pp. 1008. Price 27s. 6d.

THE first edition of Professor Sahli's treatise, "Clinical Methods of Investigation," was published in 1894 and was recognised as a most excellent work on the subject of clinical diagnosis. A second edition appeared in 1899, a third in 1902, and a fourth during 1905. The present translation of the last edition was undertaken to render easily available to English-speaking students of medicine a work too little known in England and America. Professor Sahli chose the title "Lehrbuch der Klinischen Untersuchungs-Methoden," a title which inadequately expresses the large scope of the book. Not only are all methods of examination for the purpose of diagnosis exhaustively considered but the explanation of clinical phenomena is discussed from physiological as well as pathological points of view. This task is carried out with a thoroughness which has not been exceeded in any work on the subject of clinical examination which has appeared.

It is difficult to select from a work of this size any particular points for review. The whole book is replete with interest and from nearly every page something may be learned. The various methods of clinical investigation are admirably described and the most recent aids to diagnosis receive due attention. The section dealing with the arterial pulse contains descriptions of the latest modifications of the sphygmograph and sphygmomanometer. In reference to the first-named instrument modifications have now been introduced by Professor Jarnet and by Professor Sahli which correct the excessive vibration of the recording needle. This is a great improvement, as in the older instruments errors in recording the movements imparted by the pulse were frequent. The sphygmomanometer is now being more frequently used than formerly and is considered by some physicians to yield a more accurate estimation of the arterial tension than can be gained by the use of the fingers only. The Riva-Rocci instrument, slightly modified, has claimed most attention and is well described in this text-book.

A large amount of space is devoted to the description of the various tests which are employed in the examination of the contents of the stomach and the most modern methods are described. For instance, Reissner's improvement of the Lütke-Martius method of determining the hydrochloric acid in the gastric juice is given, whereby the error introduced by the presence of ammonium chloride is obviated. Reissner's method of determining the chlorides for the early diagnosis of malignant disease of the stomach is also described.

In the section devoted to the bacteriology of the sputum the micrococcus catarrhalis is mentioned. This organism is almost always found in the nasal secretion in rhinitis and is also frequently observed in the sputum. It differs from the ordinary staphylococci by its much larger size, by its decolourisation by Gram's method, and by its position in the cells.

The section on the examination of the blood is an excellent one and contains the results of the most recent investigations. Amongst the various forms of apparatus for determining the amount of hæmoglobin in the blood attention is naturally directed to the description of Professor Sahli's new hæmometer. In the instruments which are most commonly employed the solution of blood is compared with an artificially coloured substance—i.e., either with a coloured wedge of glass or with a solution of picrocarmine. To meet the demands of accurate colorimetry, however, the coloured fluid to be examined should not be compared with a different substance similar in colour but with a solution of known strength of the same colouring matter. The difficulty in applying this colorimetric principle in the examination of the blood lies in the fact that solutions of hæmoglobin are not permanent. It consequently follows that if in the interests of accuracy the employment of artificial colours is avoided some permanent hæmoglobin derivative must be utilised in making the standard solution. The solution of blood must then be converted into a solution of the same derivative, when a comparison may be accurately made. After numerous attempts Professor Sahli has succeeded in devising a method by which the hæmoglobin of a solution of blood may be transformed into a derivative by a simple chemical reaction. The procedure consists simply in diluting the blood with a known quantity and strength of hydrochloric acid. After a few seconds the fluid becomes dark brown from the formation of minute particles of hæmatin hydrochlorate. Although this substance is not held in true solution it has the appearance of being so and when diluted with water forms a clear brownish-yellow fluid, the pigment percentage of which may be colorimetrically determined by comparison with a permanent standard solution of the same substance; the exact details by which this method is carried out are fully explained in the book now before us.

There are numerous other matters in this work to which attention might be drawn did space permit. The section on the examination of the nervous system will well repay careful study; here will be found a description of many interesting and important methods of examination which have not yet found their way into the general text-books but are scattered through special treatises on diseases of the nervous system or through the medical periodicals of different countries.

The work is well printed and admirably illustrated. The editors have performed their task in a most praiseworthy manner and deserve the thanks of the English-speaking members of the profession for having produced Professor Sahli's book in its present form. We can cordially recommend this volume to the notice of our readers.

LIBRARY TABLE.

The American National Association for the Study and Prevention of Tuberculosis. New York: Irving Press. 1906. Pp. 448.—We have received a copy of the proceedings of the first annual meeting of the above association which was held in Washington on May 18th and 19th, 1905, under the presidency of Dr. E. L. Trudeau. In preparing the programme the executive committee had provided for three sections—a sociological, a clinical and climatological, and a pathological and bacteriological. Each of these sections held two sessions and, in addition, there were two general meetings of the association. A large number of papers were read and some interesting discussions followed. Addresses were also delivered by the President and the two Vice-Presidents, Professor W. Osler and Dr. Hermann M. Biggs. Professor Osler laid stress on the "education of the public, the profession, and the patients" in matters relative to the nature of pulmonary tuberculosis and the methods which might be adopted to prevent its spread. We have always insisted on the importance of medical practitioners instructing their patients in the proper disposal of the sputum and other measures of disinfection, this being, in our opinion, one of the most important factors in the general prophylaxis of the disease. Amongst the papers read at the meeting was one by Dr. David E. Twichell on the Vitality of Tubercle Bacilli in Sputum. As a result of his experiments he found that the conditions most conducive to the prolonged life of the tubercle bacillus in sputum are darkness and moisture. In one experiment the bacilli under these conditions were alive at the end of five and a half months. Dryness hastens their destruction. A temperature of about 37°C. is less favourable for them than ordinary room temperature; so is a temperature near the freezing point. The direct rays of the sun kill them in a few hours. These points should be impressed upon patients, more especially the effect of direct sunlight. Two papers were read on the agglutination test for tuberculosis—one by Dr. H. M. Kinghorn entitled "The Serum Diagnosis of Tuberculosis," and the other by Dr. M. P. Ravenel and Dr. H. R. M. Landis, with the title, "Studies in Agglutination." The results closely corresponded—namely, that the agglutination test cannot be relied upon as a trustworthy one and is therefore of no value in diagnosis; that in far advanced cases the reaction is generally absent; and that in cases under favourable conditions, as at a sanatorium, the agglutinating power is distinctly increased. Amongst the other papers read at the meeting the following may be noticed: Infection in Transportation, by Dr. H. M. Bracken; the Progress of the Sanatorium Movement in America, by Dr. W. H. Baldwin; the Examination of the Blood in Pulmonary Tuberculosis, with special reference to Prognosis, by Dr. J. T. Ullom and Dr. F. A. Craig; Studies in Mixed Infection in Tuberculosis, by Dr. M. P. Ravenel and Dr. J. W. Irwin; and Results of the Open-air Treatment of Surgical Tuberculosis, by Dr. W. J. Halsted.

A First German Course for Science Students, comprising a Reader and Outline of Grammar, with Diagrams and Vocabulary. By H. G. FIEDLER, Professor of German at the University of Birmingham; and F. E. SANDBACH, Lecturer in German at the University of Birmingham. London: Alexander Moring, Limited. 1905. Pp. 93. Price 2*s.* 6*d.* net.—The importance of a knowledge of the German language to all scientific students is now generally recognised but there are many who have not opportunities of attending a class of instruction in this subject. To such the book before us should prove invaluable, affording as it does an easy introduction to the language while at the same time accustoming the reader to many of the technical words and phrases likely to be met with in lectures and text books of elementary science. It contains first a series of passages for translation into English, conversational in style, simple at first but of increasing difficulty, with references to the principal rules of German grammar which are set out in the second part. At the end of the book is a vocabulary of the words used in the exercises. The volume deals with elementary chemistry and physics and the text is illustrated with a number of diagrams explanatory of the subject matter. We can imagine no better aid to a student who contemplates going to Germany to attend a course of lectures than a study of this little work. Should it prove successful further volumes dealing with other sciences will be issued.

Nature and Health: a Popular Treatise on the Hygiene of the Person and the Home. By EDWARD CURTIS, M.D., Emeritus Professor of Materia Medica and Therapeutics, Columbia University, New York. New York: Henry Holt and Co. 1906. Pp. 313.—The author states that this book has been written in great part out-of-doors and thought out under the open sky and that the fragments have been committed to paper by the wayside, on the knee or on the flat tops of fences. It is offered to the public "not as learning but as a lure—a lure for the wise living that shall gain from goddess fairer than Hera, than Athene, or than Aphrodite herself, that gift, all Hygieia's own, the priceless boon of health, happiness, and the usefulness of years." The book is written in a pleasant vein. It tells what should be avoided and what should be done in order to live healthily and long. The chapters are headed as follows, the titles showing the full scope of the volume: Breathing; Eating; Drinking; Drugging for Delectation; Seeing; Hearing; Clothing; Bathing, Disposing of Waste; Disinfecting; Exercising Body and Mind; Sleeping and Waking; Working and Playing; and Living and Dying. The text is brightly written and the book will be helpful, we think, to many. The chapter on Drugging for Delectation contains many necessary warnings.

The Thompson Yates and Johnston Laboratories Report. Edited by RUBERT BOYCE and CHARLES S. SHERRINGTON, with H. E. ANNETT, BENJAMIN MOORE, RONALD ROSS, E. W. HOPE, and Assistants. With illustrations and plates. *Vol. VII. (New Series), Part I.* February, 1906. Published for the University Press of Liverpool by Williams and Norgate. Pp. 87.—This issue contains the following contributions: (1) *On a New Pathogenic Louse which acts as the Intermediary Host of a New Hæmogregarine in the Blood of the Indian Field Rat*, by S. B. Christophers, I.M.S., and R. Newstead, A.L.S.; (2) *Note on the Anatomy of Gastrodiscus Hominis*, by J. W. W. Stephens, M.D. Cantab.; (3) *A Revision of the Sarcopsyllidæ, a Family of Siphonaptera*, by Karl Jordan, Ph.D., and the Hon. N. C. Rothschild; and (4) The Maiotic Process in Mammalia, by J. E. S. Moore, F.L.S., and C. E. Walker, F.L.S. The fourth paper is beautifully illustrated with seven coloured plates.

Lectures upon the Nursing of Infectious Diseases. By F. J. WOOLLACOTT, M.D., B.Ch. Oxon., Senior Assistant Medical Officer, Park Hospital, Metropolitan Asylums Board. London: Scientific Press, Limited. Pp. 147. Price 2*s.* 6*d.* net.—This work is based on a series of lectures upon the nursing of infectious diseases originally published in the nursing section of the *Hospital*. A description of the chief infectious diseases of this country is given and also of the measures, both preventive and curative, usually taken in dealing with them. The rule that has been followed is to mention only those forms of treatment which are usually left to the nurse to carry out or for which she must make preparations. We have read this well-written little book with pleasure and it can be recommended to the notice of those for whose benefit it is brought out. The teaching is both sound and practical and the book will be a valuable one for reference in time of need.

The Ship Surgeon's Handbook.—By A. VAVASOUR ELDER, M.R.C.S. Eng., L.R.C.P. Lond. London: Baillière, Tindall, and Cox. 1906. Pp. 167. Price 3*s.* 6*d.*—The treatment of sickness or accidents on board ship is naturally much the same as on shore but the differences of environment in the two cases are so great that some hints from an experienced ship surgeon can hardly fail to be useful to a novice. We have no hesitation in advising any young man who thinks of holding such an appointment to read Mr. Elder's book and to keep his injunctions in mind. A sufficient idea of the nature of the contents will be given by the headings of some of the chapters—namely, Choice of a Ship, Outfit and Uniform, Drugs, Instruments and Appliances, Status and Duties on Board, Fees at Sea, and Medical and Surgical Practice. Sea-sickness has a chapter of about 13 pages all to itself. The concluding chapter, which deals with Ships as Convalescent Institutions, deserves the attention of practitioners who are considering the question of sending a patient on a voyage. We agree generally with the suggestions given as to the class of patients who should not be sent but the recommendation that invalid passengers should carry with them musical instruments upon which they can play is surely open to question, just as much as is the vehement denunciation of ship's firemen in another part of the book. Ship owners are not all alike in their requirements with respect to what may be called systematic visits made by the surgeon to the portions occupied by passengers, whether first-, second-, or third-class, and the spirit as well as the letter of the Board of Trade regulations must be kept in view. It will be remembered that the Australian contingents during their return home from the South African campaign suffered severely from sickness and in the inquiry which followed complaints were made that the medical officers "did not sufficiently take charge." For this reason we should like to have had a few additional details as to the round of inspection mentioned on p. 34; as to the number, position, and constant readiness of hospital cabins; and as regards sick passengers who either neglect or refuse to send for the surgeon, thereby exposing him to the imputation of negligence if he respects their privacy or of intrusiveness if he does not.

Varicocele in Relation to the Army. By FRANK HOWARD, M.D. St. And., Colonel, Army Medical Staff (R.P.). London: Rebman Limited. 1906. Pp. 3.—In our issue of Sept. 23rd, 1905, p. 923, under the heading of "Varicocele—What of It?" we published a letter in which Colonel Howard raised several important questions relative to this condition. In the first place, he emphatically expressed the opinion that varicocele was not a disability which should entail the rejection of an otherwise suitable candidate for a commission in the army. Furthermore, he is strongly opposed to the performance of any surgical operation for the relief of varicocele in these circumstances. In this he is not in full agreement with the official view, for the army medical regulations as to the examinations of candidates for commissions state that "a slight defect [i.e., as regards the existence of varicocele] if successfully cured by operation is not a disqualification." In the pamphlet now under consideration Colonel Howard discusses the question of varicocele in recruits and points out that the objection to enlisting soldiers in whom varicocele exists is not so much a question of surgery as of military discipline, because such soldiers when they wish to evade certain duties complain of disabling pain in the parts and there is no means of controverting their statements. Varicocele is therefore held to be a disqualification for a recruit (who, if enlisted, would be a private soldier) but in Colonel Howard's opinion there is no reason why it should be a disqualification for an officer.

Reminiscences of a Country Politician. By JOHN A. BRIDGES, J.P., Worcestershire. With frontispiece portrait. London: T. Werner Laurie. 1906. Pp. 274. Price 8s. 6d. net.—These are the remembrances and thoughts of a member of the old Tory party, of one who would like to have Lord Curzon in command and sees in his the hand to save the Tories from extinction. He finds in the tariff reform agitation the cause which brought about the recent defeat and in his final chapter he speaks of Mr. Chamberlain's utterances and policy with considerable scorn. The title suggests that the book would deal with politics alone but the author touches on many questions and in his chapter headed "Parsons I have Known" he tells some amusing stories in a not unkindly manner. The book contains much that is clever and amusing and we can imagine that its general tone and its genial comment upon men and manners would recommend it to a large number of medical practitioners.

JOURNALS AND MAGAZINES.

Edinburgh Medical Journal.—In the June number the editors announce that for the future this well-known journal will be closely connected with the Edinburgh Medical School, its new proprietors being Edinburgh men whose names are distinguished in medicine and surgery. The editors remain the same. The present number contains among its original articles an interesting paper by Dr. W. Murrell and Mr. H. Wilson Hake on Coloured Urine due to aniline dyes and other pigments. Dr. Hugh A. Stewart records a case of Aortic and Pulmonary Obstruction with Pericarditis, the diagnosis not being, however, confirmed by post-mortem examination as the patient recovered. Mr. J. Hogarth Pringle records notes of some cases of Hernia in which several loops of bowel were strangulated in the same sac and points out some important peculiarities met with in this condition.

Scottish Medical and Surgical Journal.—In the June number, in an inaugural address delivered before the Section of Pathology at the recent Australasian Congress of Medicine, Professor D. A. Welsh deals with the views on Cancer and other Tumours which have been put forward as the result of the work of Professor J. B. Farmer, Dr. E. F. Bashford, and others. Dr. H. G. Langwill records two cases of Transitory Hemiplegia in which attacks exactly resembling the hemiplegia of cerebral hæmorrhage occurred in elderly persons and passed off as suddenly as they arose in the space of a few minutes. Spasm of some vessel is suggested as the underlying condition. Mr. E. W. Scott Carmichael pleads for Surgical Interference in Cases of Intracranial Hæmorrhage in the Newly Born which are likely to lead to permanent paralysis and Mr. Alexander Don discusses the Diagnostic Value of Radiography in Fractures. Professor R. Jardine gives notes of two cases of Vesicular Mole in which there was not the rapid enlargement of the uterus usually looked on as diagnostic of the condition and remarks that he has never seen a case in which the passage of vesicles in the discharges was noted before the uterus was actually emptying itself.

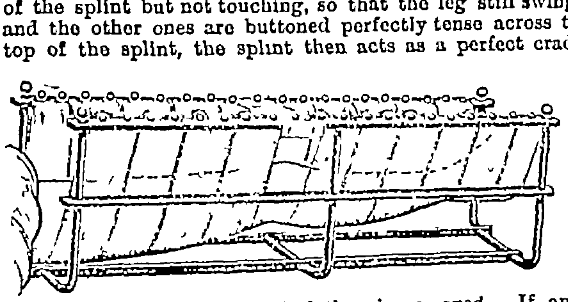
Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXXIV., No. 3. London: C. F. Clay. May 31st, 1906. Price 7s.—The following articles are contained in this number of the *Journal of Physiology*. 1. On Some Physiological Actions of Ergot, by H. H. Dale. The nature of the active principle or principles of ergot has not in the author's opinion been quite satisfactorily determined. He finds that the physiological effects of preparations from ergot, such as cornutine and sphacelotoxin, fall into two groups: (1) stimulant effects on organs containing plain muscle, evidenced in contraction of the arteries, the uterus, and the sphincter iridis; and (2) a specific paralysis of the motor elements in the structures associated with sympathetic innervation which adrenalin stimulates, the inhibitory elements retaining their normal function, as do also both motor and inhibitor autonomic nerve-supplies of cranial and sacral root origin. It is probable that these two sets of effects are produced by different active principles of which the one responsible for the peripheral paralysis appears also to be concerned in the central convulsant effects described by Kobert and others. Several incidental conclusions are arrived at and the article is illustrated by many tracings. 2. The Action of Radium Rays on Tyrosinase, by E. G. Willcock, Newnham College. The experiments showed that tyrosinase constituted an apparent exception to the general rule that radium rays are injurious to ferments. 3. The Regeneration of the Blood after Hæmorrhage, by C. Gordon Douglas, B.A. It appeared from the experiments (made on buck rabbits) that after bleeding to the extent of from one-fourth to one-third of the total volume of blood there was rapid restoration of the volume of blood to its normal value followed by an increase above that value. 4. On the Non-uniformity in the Rate of Discharge of Impulses from Cells of the Spinal Cord Poisoned with Strychnine, by David Fraser Harris and William Moodie. The authors found the rate of discharge during the first second as high as 25 in the second, which they think may be explained on the assumption that the two extensor muscles concerned in their experiments—the peroneus and tibialis anticus—were discharging alternately each at 13 per second but afterwards discharged synchronously. 5 Concerning Cystinuria, by Archibald E. Garrod, M D. Oxon, and W. H Hurtley. 6. On the Secretion of Urine, by T G Brodie, F R S, and Winifred C. Cullis, lecturers on physiology, London School of Medicine for Women. The authors' results negative Ludwig's theory of the mode of action of the kidney and in addition show that the glomerulus will secrete more water and probably more salt when its activity is opposed by a small ureter pressure. 7. On Secretion in the Frog's Kidney, by Winifred C. Cullis, London School of Medicine for Women. The writer of the article holds that the production of urine both from the glomeruli and from the tubules is a true secretory process. She is therefore opposed to the theory of Ludwig. The number contains the Proceedings of the Physiological Society for March 24th.

New Inventions.

A UNIVERSAL LEG SPLINT AND CRADLE COMBINED.

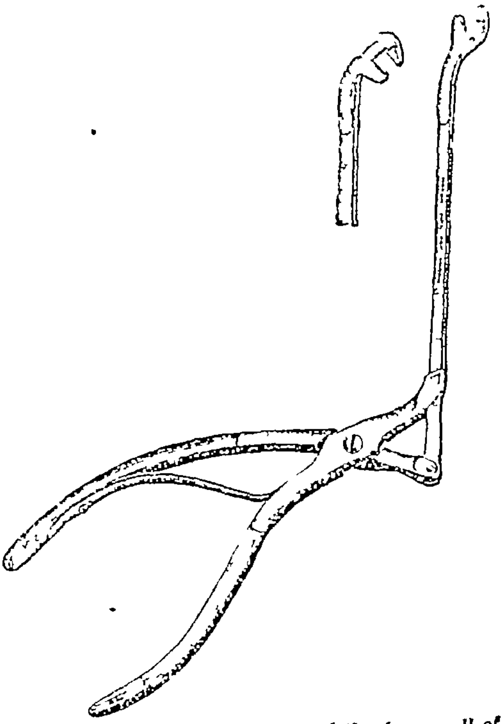
THIS splint, as shown in the illustration, consists of a white enamelled metal frame 32 inches in length, 7 inches in depth, and 9 inches wide. Along the top on each side is fixed a row of brass studs which serve to secure a series of 10 straps. These straps are each 3 inches wide and are buttonholed or eyeletted so as to be adjustable to half an inch. They are made of pegamoid and may therefore be sterilised by boiling. The advantages claimed for the splint are as follows:—1. It requires no padding, thereby saving time and material. 2. The swing arrangement of the straps when in position is more comfortable than a perfectly resistant surface. 3 By means of the adjustable straps it is adaptable to any size, shape, or length of limb, whether child or adult (even an amputation stump). 4. The splint can be used for either leg. 5 It is of the greatest convenience when heel pressure has to be relieved, which in case of either a short or long limb can be easily effected by removing the strap at the location of the heel so that a space is left. 6. One of its greatest acquisitions is the elevation of the limb with steady graduated support to the whole under-surface, which is attained by graduating the length of the straps on which the limb rests 7. It is obvious also that by regulating the straps the splint can, if required, be used as a double inclined plane. 8. One or more of the straps may be used over instead of under the limb, so as to keep the limb or amputation stump fixed in the case of a restless patient or child. 9 If alternate straps are lowered nearly to the floor of the splint but not touching, so that the leg still swings, and the other ones are buttoned perfectly tense across the top of the splint, the splint then acts as a perfect cradle and all pressure of the bed-clothes is removed. If any portion of the foot should project above the splint an adjustable and detachable guard is provided to remove the weight of the clothes. 10 After the leg has been put up in fracture splints it may then be placed in the universal splint and *active* motion thereby prevented. 11 In case of a much swollen limb or one to which application of bandages would not be considered advisable for the reasons of either overheating the parts or after-constriction by the bandages in cases of increase in the swelling, with a sufficiency of top dressings only the straps can be arranged over the injured part of the limb to keep those dressings in place 12. When excessively wet dressings are required to be applied to the limb, such as evaporating lotions, they can be kept in place without the use of a bandage (which only absorbs the moisture and interferes with evaporation) and by the application instead of one or more of the non porous pegamoid straps, and by placing a dressing tray within the splint under the suspended leg it acts as a receptacle for the drippings from the moist dressings 13 The placing of the straps over the limb very much facilitates the keeping of an ice bag in position and they can be made use of for this purpose over any part of the limb, especially the knee in synovitis I have found them of use in maintaining in position my twin ice bag (made by Arnold and Sons) when used for the leg. 14. The construction of the splint is such that it may be perfectly cleansed. I have had frequent and various uses for the splint over a period of three years and have found it of greatest service It is manufactured by Messrs. Jas Woolley, Sons, and Co, Limited, surgical instrument makers, of Manchester. MARTIN J. CHEVERS

Withington, Manchester.



PUNCH-FORCEPS FOR OPERATIONS ON THE MAXILLARY ANTRUM AND OTHER ACCESSORY NASAL SINUSES.

Messrs. Mayer and Meltzer have for some time considered the question of forceps for making a large opening into the maxillary antrum by the nasal route and have made punch-forceps from the design of Mr. T. Carwardine of Clifton, Bristol, which appear to have given satisfaction to several of their customers The complete set consists of four pairs of punches: two of these are downward-cutting for enlarging the right and left antral openings respectively in a downward direction, the third is direct in cutting action, and the fourth is reversed to enlarge the opening backwards and forwards. They consist essentially of a strong hook and guide, the distal part of which is curved and ends in a male cutting blade The sliding female blade of the punch-forceps is hinged to a thrusting shaft to obtain lateral movement with a maximum of power. The downward-cutting punches are sufficiently powerful to remove the inner wall of the antrum down to the floor of the nasal fossa, where it is thickest; the direct and reversed ones are intended for removal of the remainder of the inner wall of the antrum. Though designed for operations by the nasal route they are also useful for operation through the canine fossa The direct-action punch forceps may be used for other purposes in addition; they are of considerable power and have been found useful for removing the base of the sphenoidal sinus for dependent drainage of that cavity.



THE LANCET.

LONDON: SATURDAY, JUNE 23, 1906.

The General Medical Council and the Teaching of Midwifery.

THE report presented by the Students' Practical Midwifery Committee to the General Medical Council at its meeting on May 28th is one of very great importance. It has long been a well-known fact recognised by most teachers of midwifery that the rules laid down by the Council for the teaching of practical midwifery—namely, that the student should attend the indoor practice of a lying-in hospital, or be present at not less than 20 labours, at least five of which are to be conducted under the direct supervision of a registered practitioner—were not complied with by the great majority of medical schools. Further than this, in many instances students have been allowed to conduct cases of midwifery when they had only attended courses of lectures on anatomy and physiology and had received no instruction at all in midwifery, and the report of the committee shows that in no less than 23 schools the students may attend cases of labour before they have acquired any knowledge whatever of either medicine or surgery. Not only is this so but the amount of supervision exercised over the student is often of the scantiest description and mainly consists in his being accompanied to his first case, or first few cases, by an obstetric assistant. Moreover, as in most instances the work is carried out in an extern maternity charity attached to the hospital, the possibilities of giving adequate, or indeed any, teaching in regard to the progress of labour or the puerperium are simply non-existent. The evidence collected by the committee showed, too, that the certificates of attendance on the required number of cases of labour were often signed by unauthorised persons or without adequate proof being furnished that the student had really carried out the work satisfactorily.

As we have already pointed out, these facts have long been well known by those engaged in the teaching of this subject and attention has been directed to them from time to time by various writers who have demonstrated how deficient the teaching of the student is in this important branch of medicine in this country. The fault is not, however, wholly to be placed upon the shoulders of the teachers. It lies as much or more on the examining bodies. The regulation by which, for example, the London student is allowed to proceed to his examination in midwifery on the expiration of one year from the date of passing his first professional examination in anatomy and physiology has been productive of nothing but evil. It results in men going up for their examination in midwifery often completely ignorant of both medicine and surgery, and further than this it results only too often in their frittering away a large part of their first year of hospital practice. Having decided to take up midwifery at the end of this year they proceed to devote most of their time to this subject with the result that they only too often neglect their lectures on medicine and surgery and consequently do not derive the amount of benefit that they should from their terms of office as medical clerks and surgical dressers. If by chance they fail they then have to devote another three months to passing their midwifery test with the final result that the first 15 months of their hospital practice are to a large extent wasted. It is absurd that a student should be allowed to present himself for examination in what after all is a specialised portion of medicine when he is possibly quite ignorant of the parent subject. The result of this is indeed in some instances most ludicrous—for example, it is not an unknown thing for a candidate to tell the examiner in midwifery that he cannot write a prescription because he has not passed in therapeutics, or that he knows nothing of albuminuria complicating pregnancy because he has not yet passed in medicine and therefore cannot be supposed to have any knowledge of the diseases of the kidney. If the student happily succeeds in passing his examination in midwifery at the end of his first year of hospital work he concerns himself no more with the subject, and if by chance some three or four years elapse before he succeeds in passing in the other subjects of the final examination his knowledge of midwifery when at length he is given his diploma to practise is likely to be of the scantiest. It is essential if the teaching of midwifery is to be improved that this unfortunate regulation should be rescinded. The committee of the General Medical Council has, as a result of its investigations, made the following suggestions. No student should be allowed to conduct the 20 cases of labour required until he has filled the post of clinical clerk and surgical dresser and has attended courses of lectures on medicine, surgery, and midwifery. With this recommendation we entirely agree and there should be no difficulty in so arranging the work during the first year of hospital practice as to allow of these duties being performed and these courses of lectures being attended before the student enters on his work in the maternity department. If this suggestion is, however, to be carried out, then it must no longer be possible for the student to present himself for examination in midwifery at the end of one year after passing his first professional examination in anatomy and physiology. Under this scheme he would then attend his midwifery cases in his fourth year or his second year of hospital practice, as indeed is already the custom in a number of the schools. The committee further recommends that the student before attending his cases of labour shall give undivided attention to the indoor practice of a lying-in hospital or the lying-in wards of a general hospital and shall therein attend cases of labour under the direct supervision of a medical officer of the hospital. With this recommendation in the abstract we are also in entire agreement but how it is to be carried out in practice is difficult to foresee. At the present time very few hospitals, at any rate in London, have lying-in wards attached to them and the lying-in hospitals themselves are mainly devoted to the practical teaching of midwives. Indeed, midwives have much better opportunities of obtaining proper clinical instruction in midwifery at the present time in London than has the medical student.

The number of subjects required to be studied by the student are now so numerous and the claims upon his time so many that it is very difficult to see how he is to obtain the time necessary for a month's undivided attention in the lying in ward. Already he has more than he can accomplish in the time at his disposal and to improve the practical teaching in midwifery in this way is impossible unless more time can be provided. We believe that a solution of this problem may be found in a more equable distribution of the five years of the curriculum. The amount of time devoted to the preliminary subjects is in our opinion too long and the student should be required to finish his preliminary studies in a period of not more than two and a half years, so that two and a half years may still be available for the adequate study of the many subjects included in the purely hospital part of his course. In some such way only will it be possible to provide time for more extended courses of teaching in practical midwifery. Possibly in the future all the medical schools may be able to provide lying-in wards for the purpose of teaching their students but the solution of the difficulty of obtaining the necessary clinical material is more likely to be met by the amalgamation and enlargement of the existing lying-in hospitals and their adaptation for the purpose of providing the necessary instruction recommended by the committee of the General Medical Council. In this way sufficient accommodation could be provided and arrangements made for the proper teaching of this most important subject. The provision of small lying-in wards in the various hospitals seems to us a wasteful method of procuring the material and it would be much easier to obtain the services of men properly qualified to carry out the training of the students in one or two large institutions than in a number of smaller ones. In the latter cases such teaching will obviously have to be given by much the same persons as give it at the present time—namely, obstetric tutors and residents. We hope that the committee recently appointed by the Royal College of Physicians of London to consider the teaching of the students in midwifery will see its way to endorse the recommendations of the committee of the General Medical Council and at the same time will formulate a workable scheme for the practical carrying out of these recommendations. We trust, too, that it may realise how fully burdened the curriculum of the student already is and that it will not add to this burden without devising some means for providing him with an increase of time in which to pursue the more extended course of practical teaching in midwifery which is undoubtedly necessary if the subject is to be efficiently taught in our medical schools.

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The Importance of Early Symptoms in Regard to Diagnosis.

UPON accuracy in diagnosis depends mainly the efficiency of treatment. Although there are undoubtedly cases in which in the absence of a definite diagnosis, or even with a false diagnosis, the treatment adopted may prove successful, yet no one will attempt to deny that with a correct diagnosis the probability of a satisfactory treatment of the patient is greatly increased. It may be definitely said that, as a rule, the success of the treatment varies directly with the accuracy of the diagnosis. Therefore, as the efficient treatment of the patient is the main object of medicine the attainment of an exact diagnosis is the primary desideratum. One main cause of errors in diagnosis is a careless examination of the patient. If physical signs are not noticed though they are present, if symptoms are not inquired for though they may exist, the risk of a mistake as to the disease or injury which is present must be very great indeed. Many a time the early pain of a tuberculous hip-joint has been lightly dismissed as a "growing pain" or "a little rheumatism" when careful examination would have shown that the signs of commencing coxitis were present. This neglect may easily cost the patient his limb or his life. How often has the slight blood-stained mucus of intussusception in a child been fatally disregarded at the time when immediate treatment might have availed. Symptoms and signs are most likely to escape notice when there is present another important factor in the making of erroneous diagnoses, and this factor is lack of knowledge of the meaning and importance of these signs and symptoms. It is difficult to say whether want of care or want of knowledge is of the greater importance but when the two are combined the result indeed may be appalling.

A knowledge of the manner in which a disease has arisen or an injury has been inflicted is of very definite value in estimating the probable severity of the disease or the extent of the injury but too much reliance must not be placed on the mode of origin of a morbid condition, for it may well happen, and it frequently does happen, that from an apparently slight cause very severe results follow. The septic complications that may attend the mere puncture of a pin are well known. In addition to local sepsis the graver complication of septicæmia may occur and a primary sore and a general attack of syphilis have followed a slight scratch on the hand caused by contact with another's tooth. Striking instances of the great and dire results which have followed small and trivial causes must be known to everyone. "Lesions of commotion" to which we referred recently in a leading article on industrial accidents may occur when no apparent injury has been inflicted, yet lesions have resulted which have ultimately given rise to very serious effects. When opportunity offers for examining subsequently the injured organ very little change may be found that is visible to the naked eye and yet the injury to function has been great. It is true that "spinal concussion" has been much misused by malingerers, especially by those claiming compensation after railway accidents. Nevertheless, all who have had much experience in nervous cases resulting from severe commotion will agree that such a condition does exist. It must be clearly understood that the absence of symptoms immediately after an injury is no trustworthy evidence that no harm has been done. A child, three years of age, fell down some half-dozen steps of a staircase and, except for a slight bruise on the forehead, he seemed none the worse for his fall. Five days later it was noticed that he held his head in a slightly retracted position and feared to move it. Even this caused little concern to those around him and it was not until his mental condition became obviously affected that medical advice was sought. Then it was clearly recognised that meningitis was present; it was caused by a fracture through the middle fossa of the base of the skull, communicating with the pharynx. Thus septic organisms had passed in and had obtained access to the meninges. The child died two days later. In this case there was probably nothing to show at the time of the accident that so serious a lesion as fracture of the base of the skull was present but if an early diagnosis had been made it is possible that the fatal ending might have been avoided.

Many cases have been recorded in which the point of a stick or of an umbrella has been thrust into the orbit on the inner side of the globe. There may be no outward evidence of injury beyond perhaps a slight bruising of the lids near the inner canthus or a little ecchymosis of the conjunctiva, but in the majority of these cases there has been present a fracture of the orbital plate of the frontal bone or the lesser wing of the sphenoid. Sometimes the immediate symptoms are hardly noteworthy but the manner of the production of the injury should suggest the lesion which is likely to be present or at least should insure careful watching for a time. The passage of a cartwheel over the abdomen may cause no lesion of the skin beyond a bruise and sometimes no injury to any abdominal viscus may be found but this is quite exceptional and the surgeon has no right to take for granted the absence of visceral lesion merely because there are no immediate symptoms indicative of such an injury. The manner in which the violence has been applied should in itself suggest the probable nature of the lesion present. Several cases are recorded where a kick on the abdomen or some similar form of violence has caused rupture of the liver, the spleen, the bladder, or the bowel and yet has caused hardly any cutaneous injury. The explosion of the breech of a fowling-piece or a rifle has often inflicted severe injuries but in medical literature will be found the records of many cases in which, with very little external injury, a portion of the breech has been carried into the nose or orbit and has lain there unnoticed for months or years. In one case recorded by RUSHTON PARKER in THE LANCET in 1885 the breechpiece and bolt had remained imbedded for five years although they weighed together three and a half ounces. Many a time has a patient with a fractured base of the skull been imprisoned for drunkenness and the diagnosis has only been made at the necropsy. It were easy to quote numerous other instances to show the danger of saying that no injury has occurred when a patient has been exposed to a severe accident. Many lesions take time to manifest themselves and it is far better in such cases to use an excess of caution than to run the risk of disregarding and neglecting a serious lesion.

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The American Medical Association.

IT is hard to say to what extent the facts may be due to the essential individuality of the medical practitioner, but the truth remains that the members of our profession seldom show themselves at their best when they are engaged in efforts at combination. We frequently observe on such occasions an undesirable surrender of leadership to mediocrities and a consequent insistence upon questions which might more wisely be left untouched. Men of eminence, when they take part in the proceedings at all, are prone to do so as if under some scarcely veiled form of protest; they almost invariably dissociate themselves, if not in words at least in action, from the counsels and the resolutions which find favour in the sight of some whom the meeting brings into temporary prominence. We have before us copies of the three principal addresses recently delivered at the annual meeting of the American Medical Association at Boston, and it is difficult to read them, or impossible to read them between the lines, without perceiving that conditions familiar to us at home are liable to be reproduced on the Western side of the Atlantic. The Presidential address, that of Dr. W. J. MAYO of Rochester, Minnesota, Honorary Fellow of the Royal College of Surgeons of Edinburgh, naturally claims the first attention and it opens with a protest, such as the articles which we recently quoted from the *St. Louis Medical Review*[1] show not to be superfluous, against any forms of medical organisation which are directed towards the attainment of self-seeking ends. The members of the Association are urged to further the interests of the body to which they belong, not for themselves alone, but in order better to fulfil their sacred obligations to mankind. They are told that the right way to secure proper estimation for the physician is to educate the public with regard to the nature as well as to the importance of his work; and it is explained that popular ignorance of medical affairs is due to bad education rather than to prejudice. The laity are described as being more than two decades behind advanced medical thought and it is said to be the duty of the profession to render them better informed and to divest medical advice and medical practice of the relics of mysticism and of superstition which are the evidences of an origin in priestcraft. The layman accepts with avidity new dogmas and "pathy's" based on theories incredibly foolish in the light of modern investigations and the profession has allowed him to become fixed in such beliefs. It has permitted him to be educated by "patent-medicine" advertisement and by the voluble charlatanism of the commercially interested. In return, the profession itself is classed with these schemers and efforts for the general good are believed to be selfishly inspired. The time has come for the public to be taken into our confidence and if we wish for better results we must enlighten the people with whom rests the final word.

Dr. MAYO proceeds to discuss the means by which the necessary enlightenment may be effected and it is interesting to see that he gives the first place to the efforts of local medical societies, by which occasional meetings should be held to which the neighbouring residents are invited, meetings devoted to the discussion of medical or semi-medical questions of general interest and reports of which would be published in the local papers. He also calls attention to the successful crusade instituted by two newspapers, the *Ladies' Home Journal* and *Collier's Weekly*, against the poisonous substances and intoxicating beverages which are sold under the name of patent medicines and which are only patent in the sense that the name is copyrighted, while the constituents can be changed at any time or in any way.

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[1] THE LANCET, June 9th 1906, p. 1623.

He repeats a suggestion which has already more than once been made in this country, to the effect that the protection given by a patent should be conditional upon complete disclosure of the composition of the mixture; but he omits the obvious corollary that any departure from this composition would then justify a prosecution under some Act for the regulation of the supply of food and drugs. He indicates as necessary reforms the establishment of higher and more uniform standards of medical education, hinting not obscurely that none but men of really liberal education can be expected, as a rule, to escape from the commercial standards of their time and their environment, and to reach the intellectual conditions necessary for the most successful practice of medicine. "I have never," he declares, "known a physician who has become rich solely from his profession, and it is better so; for beyond that reasonable competence which leaves him free to pursue his life work the care of money interferes with the highest aims of the true physician, and few who have been burdened with wealth have reached their ideal in a calling which makes no distinction between the rich and the poor." One improper method of obtaining money is condemned, to which, we are happy to believe, no parallel exists among ourselves. Dr. Mayo speaks of a prevailing practice of sending patients to specialists who will pay for the recommendation by a share of the fees which they receive, and it is satisfactory to add that he has personal knowledge of men of good attainments and remunerative practice who have been ruined through losing the confidence of their communities by this pernicious traffic. The difficulties arising from modern developments of pharmacy are referred to briefly and the address is brought to a conclusion by much excellent advice to young practitioners concerning daily study and other matters, advice which would be likely enough, we fear, even in the United States, to elicit from the audience the commentary of the northern farmer—

"I thowt a 'ad summut to saäy,
An' I thowt a said whot a owt to 'a said an' I coom'd awaäy."

We have left ourselves but little space in which to speak of the two remaining addresses, How Progress comes in Medicine, by Dr. Frederick C. Shattuck of Boston, and on the Nature and Progress of Malignant Disease, by Dr. Joseph D. Bryant of New York. The latter is somewhat disappointing, partly because the reports of the Cancer Research Fund have rendered us in this country familiar with the most recent aspects of the problem, and partly because all that it accomplishes is to recommend in many words recourse to early operation in all "accessible" cases of the disease. Dr. Shattuck is mainly historical and sketches the progress of the healing art in various directions and as an effect of various studies, but he wisely attaches special importance to an influence which to-day is perhaps liable to be underrated, the influence of clinical research. "Pathologic anatomy," he declares, "remained sterile until wedded to clinical observation." He returns to this general proposition more than once and illustrates it by some well-chosen examples. Anatomy, he says, could never have taught the great lesson of cerebral localisation, nor could animal experimentation or physiology alone. The starting point came from the clinician who, through careful comparison of the experiments made by disease upon the human being, pointed out the way for physiological experiment to follow. In myxœdema, again, the great advance came purely from clinicians, medical and surgical. The experiments of Schiff and Horsley, although interesting and confirmatory, were not essential stones in the structure. The evidence is sufficiently complete without the aid of the laboratory; and this remark leads to the cogent observation that there is too much tendency in the present day to limit the term "scientific" to investigations which are carried on by men not dealing directly with the sick. The work of the clinician may be every whit as scientific as that of his laboratory brother. The laboratory man has an advantage in being able to inaugurate, to systematise, and to govern his experiments, most of which must be upon animals; but the clinician has the advantage that the experiments performed for him by disease are upon human beings and are often of such a nature that they could not be made artificially. This view of the question is, we think, worthy of all the emphasis which Dr. Shattuck has laid upon it; because there can be no doubt that the comparative facility of laboratory work and the comparative certainty of the conclusions drawn from it have a direct tendency to divert students from that careful observation and close study of clinical phenomena without which a man may, indeed, be a biological chemist or a pathologist, but will never be an accurate diagnostician or a successful practitioner.

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The Election of Members of Council of the Royal College of Surgeons of England.

On the Fellows of the Royal College of Surgeons of England rests a heavy responsibility, for to them it is given to elect the members of the Council and on the results of their choice depend the most important interests of the surgical profession in this country. The election should be approached with a due sense of the gravity of the issue. There are in all 24 members of the Council and of these three retire each year, so that the term of service is eight years, but if any member of the Council is elected as a substitute for a member who has died during his term of service or has resigned, then this substitute member has to serve merely for the unexpired portion of the term of his predecessor. At the approaching election on the first Thursday in July there will be three vacancies all due to the efflux of time, no deaths or resignations having occurred since the last election. For these three vacancies there are five candidates, as two of the retiring members have decided to present themselves for re-election and three new candidates have appeared. Mr. John Langton has decided not to come forward again. He has served the College for two full terms or 16 years as a member of the Council, for he was first elected in 1890, and the College owes him much for what he has done while he held office. Mr. Henry Morris is another of the present members whose term has come to an end and he is applying for re-appointment. He has not yet had two complete terms of office on the Council, for when he was first elected in 1893 it was as a substitute for Mr. Marcus Beck who had died. Mr. Morris may therefore reasonably look forward to re-election and we have little doubt that his name will be found amongst the successful candidates. The other member seeking again the suffrages of the Fellows is Mr. F. RICHARDSON CROSS of Bristol. He is a well-known ophthalmic surgeon and holds that position on the staff of the Bristol Royal Infirmary.

As we have already said, there are three candidates who have not yet held office and these are in order of seniority as Fellows: Mr. W. BRUCE CLARKE of St. Bartholomew's Hospital, Mr. G. A. WRIGHT of Manchester, and Mr. CHARTERS J. SYMONDS of Guy's Hospital. Mr. BRUCE CLARKE was a candidate for the Council last year but he retired after the nomination, and before the day of election, and therefore received only a few votes. He is at present a member of the Court of Examiners of the College. He was at one time one of the secretaries of the Association of Fellows and this fact shows that he takes an interest in the affairs of the College. Mr. G. A. WRIGHT of Manchester is surgeon to the Manchester Royal Infirmary and professor of systematic surgery at the Owens College. He is the most distinguished surgical representative of a medical school which has for some years sent no member to the Council of the College. Further, his candidature is being supported by the Manchester and District Society of Fellows of the Royal College of Surgeons of England and support such as this from those who know him is of the greatest value as an indication of the estimation in which he is held. The third new candidate is Mr. CHARTERS J. SYMONDS. He obtained his Fellowship in 1881, later than either of the other candidates, but his Membership dates from 1875. He also possesses the degrees of Doctor of Medicine and Master of Surgery of the University of London. He is surgeon to Guy's Hospital.

There are many considerations which enter into the question of the choice of candidates for such a post as that of member of the Council of the College. The medical school to which the candidate is attached has much effect for it only too often happens that a candidate from a particular school receives votes from those who have studied at that school merely because of his connexion with that teaching body. In the same spirit many provincial Fellows vote for provincial candidates merely because they are provincial. Thus at this very election a circular has been issued, to which we have already referred, by the Manchester and District Society of Fellows urging the Fellows of the College to vote for Mr. WRIGHT because he is a provincial Fellow. With the candidature of Mr. WRIGHT we have every sympathy, not merely because he is connected with a provincial school but because he would be a valuable addition to the Council. The circular mentioned points out that of 1341 Fellows 612 are resident in the provinces and therefore it claims that the representation of this large number by only four members of the Council is inadequate. It appears to be forgotten that a Fellow is appointed a member of the Council not merely to represent a certain section of Fellows but to do the work of the Council. Now, the work of the Council does not consist only of the 11 meetings of the Council; these are undoubtedly important, but still more important are the numerous, the very numerous, committee meetings in which the real work of the Council is done. It is at these committee meetings that the matters brought before the Council are prepared and digested so as to be ready for absorption. This work is arduous and takes up much of the time of those members of the Council who serve on the committees. Now it is quite possible for a provincial Fellow to attend the monthly meetings of the Council and we have nothing to say against the assiduity of the provincial members in attending the monthly meetings, but with regard to the committee meetings the case is far otherwise. It is practically impossible for a provincial Fellow to attend regularly the meetings of the committees, therefore they are rarely appointed members of the committees, while London Fellows have to bear an undue share of the burden of the work of the College. These facts must always prevent provincial Fellows being represented on the Council by a number proportionate to their numerical importance. Still, there should be some provincial Fellows on the Council and we are inclined to think that four is a very reasonable number when we take into consideration all the facts. Another consideration which should have weight with the Fellows in their choice of a candidate is the question whether the candidate is or is not an examiner at the College at the time of election. Undoubtedly the Court of Examiners should be represented on the Council, for in no other way would it be possible to know fully the thoughts of the examiners as to the status and mode of carrying on the examinations of the College. Therefore, a certain number of the members of the Council should be examiners, but on the whole it is better that the number of those who are at the same time members of the Council and examiners should be strictly limited. It must not be forgotten that in many institutions it is not permitted that members of the governing body should also hold positions from which they receive emoluments. Therefore, of two candidates otherwise equally suitable, if one is an examiner at the College and the other is not, there are arguments in favour of selecting that candidate who does not hold an examinership at the College.

We have gone somewhat fully into the consideration of the main points which should influence a Fellow in giving his vote, though there are several to which we have not alluded. There is, however, one further point to which we should like to draw attention and that is the sinfulness of "plumping." The plumper fails to do his duty as a voter; he only concerns himself with the success of one candidate and confesses to an utter indifference as to the remainder of the candidates who may be chosen. Such an indifference may be all very well in political matters but it is inadmissible in a matter which concerns the well-being of the science and art of surgery in this country.

Annotations.

"Ne quid nimis."

THE FIRST INTERNATIONAL CONGRESS ON INDUSTRIAL DISEASES.

AN Italian correspondent writes: "'There is no joy in modern labour,' says Ruskin—a remark which would be less true if labour were carried on under more favourable sanitary conditions. To define the terms under which the labourer can live and thrive with the maximum of cheerfulness and the minimum of risk was the subject that in Milan on Saturday, June 9th, brought together the first Congress, on an international scale, that has yet taken it in hand. Assembling in the Villa Reale in numbers which included representatives of every European State, the Congress was opened by an able address from its President, the veteran physician, sanitary reformer, and Senator of the Kingdom, Dr. De Cristoforis. Noting his announcement that, for the first time in civilised experience, there will shortly be established in Milan 'una clinica per le malattie del Lavoro,' I must pass on to the agenda paper as worked out in the four ensuing days—a wide, not to say weltering expanse, over which I shall have to speed in swallow fashion, skimming and dipping. First came Dr. De Giovanni of Padua (happily restored to health) on 'Individualità e Malattie Professionali,' insisting on the choice of an occupation being determined not by personal predilection but by the possession of the physical and mental qualifications which admit of its being safely and satisfactorily carried out. '*Night Labour*' was the next paper—a report on its dangers and the lesions it causes, by Dr. Carozzi and Dr. Gardenghi, who showed (*inter alia*) the anæmia produced by working in artificial light, the inadequate reparation of an exhausted system by sleep during the day, and the temptation to find in alcohol the energy and alacrity thus withheld. The 'extra-social' life led by the night-worker they hold responsible for a good deal of the 'morbid temperament' often noted in his class. An animated discussion ensued which ended in an 'affirmation' on the part of the Congress that 'night work is anti-physiological; that minors ought never to be employed in it, and that when social or technical reasons make it indispensable special conditions should be devised and enforced for minimising its disadvantages.' Professor Albertoni of Bologna followed with an instructive exposition of the Balance between Alimentation and Labour, a subject which he has made his own, and the discussion it evoked, sometimes pathetic in its presentation of the scanty fare (or worse) under which severe and continuous work is carried on in Italy, was wound up with practical suggestions for which the Congress might have made itself collectively responsible. On the ensuing day (the 10th) Dr. Pieraccini read a carefully conceived and illustrated paper, to the conclusions of which the Congress after due debate adhered unanimously, expressing the hope that 'maintaining in force the physiological limitations to the hours of work for women and children, an International Conference should study and propose for male adults the maximum time-limit allowed by physiology for the various industries and industrial occupations.' Dr. Zanoni's proposal that the maximum limit of the physiological day and the capacity of each worker for his allotted task should be determined by medical visits had many to approve it but failed to get unanimous adhesion, and after it came a really brilliant paper by Professor Crisafulli who dwelt on Phrenasthenia and Delinquency in relation to certain Conditions of Labour. This exposition might have been more in place at the recent Congress on Criminal Anthropology; all the same, it was full of independent observation and striking suggestion and went far to prove that Ruskin's 'absence of joy' might have its exit in the 'commission of crime.' Next in succession were Professor Schrötter on the Pathology of Divers and Dr. Giglioli on the Pathology of Work in Compressed Air, whose report culminated, after due discussion, in a recommendation of the Congress that a commission, composed of Professor Schrötter, Dr. Giglioli, Professor Langlois, and Professor Gilbert, should be charged with the formulation of rules to be adopted by all workers in compressed air (divers, submarine crews, navvies in tunnels, and such like). Among the papers that followed was a highly important one by Dr. Lussana and Dr. Albertoni on Alcohol and Muscular Exertion, valuable in its specification of the conditions under which wine (as drunk in Italy), in combination with food, is not only not contra-indicated but positively beneficial, after which a report by the President (Dr. De Cristoforis) on Maternity and Labour attracted many ladies among the auditors, its position being luminously and effectively supported by the distinguished Florentine gynæcologist, Professor Pestalozza. Much interest was evoked by Professor Massalongo's thesis on Tuberculosis and the Legislature as regards Labour, at the close of which, after a full and effective debate, the Congress came to a unanimous resolution calling for combined action on the part of the Governments throughout the world for carrying to a successful issue the crusade against a now demonstrably preventable disease. Communications followed on ankylostomiasis and the maladies that beset the labourer in Alpine tunnels, on 'Saturnismus' and 'La Questione del Piombo' (lead), in the handling of which the German 'Congressisti' took a prominent part, winding up with practical suggestions for the protection of the worker, and on the perennial theme of 'malaria,' which provoked a pitched battle between Professor Grassi and Professor Celli of Rome, in which the latter seemed to have the advantage, particularly in vindicating the success of quinine prophylaxis as recently practised in the Agro Romano. Other ground was effectively covered by experts on the lesions caused by the sulphur industry in Sicily and on the hygiene of factories dealing with sulphate of copper, till finally the Congress closed its proceedings with the impression unanimously shared that State medicine had made a notable and most promising start, in an international sense, with every prospect of revolutionising the conditions of labour in the best interests of employers as well as of employed."

"THE REVIVAL OF 'UNCTION.'"

Our attention has been called to a curious correspondence under the above title which has recently occupied a considerable portion of the columns of the *Yorkshire Post* and which deals with alleged examples of the recovery of sick persons under the treatment recommended in the Epistle General of that St. James who is supposed to have been Bishop of Jerusalem in the early days of the Christian Church and whose letter was declared to be canonical by the Council of Laodicea, A.D. 363. The correspondence commenced by a letter from a reverend gentleman named Saywell who, commenting upon a passage in the "London Letter" of our contemporary, proceeded to describe an alleged experience of his own "18 or 20 years ago," in which a "Mr. N.," not farther described, but suffering from "acute pneumonia," had been "given up" by his medical adviser and although conscious was "*in extremis*" when Mr. Saywell applied the Jacobean treatment of unction and prayer, with the result that the patient, a quarter of an hour after Mr. Saywell's departure, "sat up in bed and asked for a mutton-chop." It seems to be implied in the narrative, although it is not expressly stated, that the patient survived both the mutton chop and the pneumonia, and the story calls forth from another correspondent, Mr. Styring, a not unnatural expression of regret at the lapse of time and the absence of details. Mr. Styring asks for a more recent example of the same kind and also for the full name of "Mr. N.," apparently with a view to further inquiry into the history of his case. Mr. Saywell replies that if Mr. Styring will come to him he will give him the man's name and address and offers as a "more recent case" one in which "two old Wesleyans" were supposed to be dying from bronchitis and in which they both recovered after receiving the Communion from him. In this instance he apparently neglected the teaching of St. James, for there is no mention of anointing and the sufferers were not "*in extremis*," as they are said to have received the Sacrament "reverently." Another correspondent points out that the supposed recovery of the patient suffering from pneumonia sinks into insignificance when compared with the miracles of healing performed by the so-called "Father Ignatius," and cites one of these in which a man who had been crushed to death by falling stones and "reduced to a mass of pulp" was immediately restored to health and vigour when the Father poured a bottle of Lourdes water over him. In this case, unfortunately, the miracle was not published until 31 years after its occurrence, and therefore, like Mr. Saywell's first case, it seems to elude investigation. It is really pitiable that such nonsense as that which we have been quoting should be admitted, in the twentieth century, into the columns of a respectable newspaper or that an authorised teacher of religion should make such an exhibition of what has happily been called "*l'enthousiasme de dêraison.*" The publication of the correspondence may perhaps be due to the fact that the prevailing inclemency of the season rendered any description of a gigantic gooseberry too difficult of belief for the generality of readers. The simple explanation that the patients described by Mr. Saywell were never in danger of death at all and that they had probably not been "given up" by their respective medical attendants (if they had any) does not seem to have occurred to any of those who have wasted ink and time upon the question. We have been asked by a professional correspondent to express an opinion as to the possibility of the occurrence described and it is not difficult to comply with the request. As long as medical men are fallible mistakes in diagnosis and prognosis must occasionally occur and patients must recover whose recovery is not expected. But the experience of 18 centuries lends no support to the belief that such recoveries can be promoted by observance of the Jacobean ritual or that they are dependent upon any but simple natural causes. Mr. Saywell and Father Ignatius must alike hide their diminished heads before the miracles of mediæval hagiology, and the ancient and the modern narratives have this much in common, that the more closely they are investigated the less they are found to be worthy of belief.

THE HISTORY OF THE ROYAL SOCIETY.[1]

> "He returned to London in January, 1750-1, and astonished the town by the height of his play and the extravagance of his dress. With his diamond shoe buckles and snuff boxes, and a wig of iron wire marvellously contrived to look like hair, he was 'computed to walk 2500 *l.*,' and was forthwith elected fellow of the Royal Society."

This delightful paraprosdokian appears in Vol. XXXVIII. of the Dictionary of National Biography, sub nomine Edward Wortley Montagu. This worthy is of interest to the medical profession inasmuch as he was the first native of these islands to be inoculated for the small-pox. According to his mother, the celebrated Lady Mary Wortley Montagu, he was "an excellent linguist, a thorough liar, and so weak minded as to be capable of turning monk one day, and a Turk three days after." These excellent accomplishments will not now open the portals of the Royal Society and we may say with confidence that Montagu's election was one of those casual lapses from grace to which even the highest natures are prone. For in the book now before us we have from the pen of one of the most noted of its alumni some lucid accounts of "the great work, hidden indeed from public view, which at great cost to itself the Royal Society, almost from its foundation to the present time, has carried on with great benefit to the State, and through it to the nation at large." These words occur in the preface of Sir William Huggins's book which is made up of selections from four of his presidential addresses and of some other matter, including a short historical retrospect of the society from the pen of Mr. C. R. Weld, originally written in 1848. The main object of the addresses is to impress upon the State, meaning the people at large, the immense importance of Science both from the industrial point of view and from that wider view that the study of Science has a profound influence in enlarging the powers of the mind. Sir William Huggins is no advocate for altogether doing away with humanistic studies, but he pleads for improved methods in teaching the classical languages, not in opposition to the teaching of Science but in order that each study may assist the other. Science or Natural Knowledge is, to use Sir William Huggins's fine expression, "the true palladium of the empire" and, as he further says, "it is only through an increased understanding of what are called the laws of Nature—the sequence and inter-action of natural phenomena—that we can hope to bring Nature into complete subjection and to make use of her illimitable forces to work out our own ends." We commend this book to all who have the cause of the imparting of knowledge at heart, for the words therein are those of one of the most remarkable workers in the field of knowledge of our time. To have demonstrated the unity of substance which exists between this world and those others of which our universe consists is a notable achievement and this Sir William Huggins has done.

LUMBAR PUNCTURE.

ONE of the most important additions to our methods of examination as well as of treatment made in recent years is lumbar puncture. To the *Edinburgh Medical Journal* for May Dr. J. Purves Stewart has contributed an article on the subject containing several important observations. The centrifuged deposit from normal cerebro-spinal fluid under a magnification of 400 diameters should not show an average of more than two or three lymphocytes to the field; sometimes there are no cells of any sort. On the other hand, in certain organic diseases of the central nervous system there may be a great excess of leucocytes—polymorphs or monomorphs. In all cases of acute infection of the meninges there is leucocytosis in which the leucocytes are mostly polymorphs with some large monomorphs. In subacute and chronic diseases of the meninges—tuberculous, syphilitic, or other—and in certain chronic degenerative diseases of the central nervous system there is lymphocytosis—an excess of monomorphs, mostly small, sometimes accompanied by a low proportion of the large variety. The following are some examples. A man suffering from epidemic cerebro-spinal meningitis was comatose and apparently moribund. Lumbar puncture showed that the cerebro-spinal fluid was under excessive pressure, of turbid appearance, and contained 87·3 polymorphs to the field. Within many of the leucocytes the meningococcus was seen. The withdrawal of about an ounce of fluid was followed by marked improvement and recovery. The value of lumbar puncture in deciding the question of operation is shown by the following case. A man suffering from chronic otitis media rapidly developed mental dulness and slight aphasia with some fever. The cerebro-spinal fluid was found to be turbid and to contain no fewer than 371 polymorphs to the field. An operation was at once performed and an inflamed area was exposed in the temporo-sphenoidal lobe but no abscess was found. The symptoms rapidly subsided and recovery followed. In the following case the finding of normal cerebro-spinal fluid was of great value in diagnosis. In a child deep-seated pneumonia was ushered in by head symptoms simulating meningitis. There were marked headache, some retraction of the head, and squint. Moreover, another child in the family had died from meningitis. The cerebro-spinal fluid showed no excess of cells. A favourable prognosis was therefore given and proved correct. Lymphocytosis is most marked in general paralysis and tabes dorsalis. In a series of 12 cases of general paralysis the number of lymphocytes to the field ranged from 26 to 481 and averaged 133. In 25 tabetics the number ranged from 38 to 316 and averaged 143. Moreover, not only was lymphocytosis present in every case of these diseases but it was often well marked when other symptoms were slight Thus, one patient had no ataxia and his knee-jerks were present but the ankle-jerks were lost and the cerebro-spinal fluid contained 214 lymphocytes to the field. In an early case of general paralysis there were only slight loss of memory, some fibrillary tremors of the face, and a history of transient aphasia and weakness of the right hand after an attack of unconsciousness (a congestive attack). But there were 481 lymphocytes to the field. Cytological examination of the cerebro-spinal fluid is a valuable means of recognising tabes dorsalis and general paralysis in their early stages. If there is no excess of leucocytes these diseases can be confidently excluded. Syphilis without nervous lesions of the central nervous system produces little or no excess of lymphocytes in the cerebro-spinal fluid. If such is found careful examination for signs of organic disease—Argyll-Robertson pupils, loss of reflexes, and so on—should be made. Even if none are found lymphocytosis is an indication for energetic anti-specific treatment to prevent their development.

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[1] The Royal Society; or, Science in the State and in the Schools. By Sir William Huggins, K.C.B., O.M., &c. London: Methuen and Co. Pp. 131. Price 4*s.* 6*d.* net.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS, 1905.

WE have received a copy of the report of Dr. C. Theodore Williams and Dr. H. Timbrell Bulstrode, the delegates of His Majesty's Government to the International Congress on Tuberculosis held at Paris from Oct. 2nd to 7th, 1905. A full account of the proceedings of the various sections was published in our columns at the time of the Congress, we need therefore only refer to a few of the points mentioned in this report which was presented to both Houses of Parliament by command of His Majesty. Attention is quite properly drawn to the excellent arrangement of the museum. It is noted that many of the specimens exhibited illustrated the widespread influence of tuberculosis in the animal kingdom generally and shed considerable light upon the much-debated question of the precise relationship obtaining between bovine and human tuberculosis; indeed, the delegates consider that these specimens left no doubt that human tuberculosis can under certain conditions be transferred to the bovine animal and that what is termed the bacillus of bovine origin can at times be discovered in the human subject. They further state that there seems to be a very strong body of evidence pointing to the conclusion that human and bovine types of the tubercle bacillus are merely varieties of one species and not different species—a conclusion which, if accepted, at once indicates the desirability of preventive measures being extended to bovine animals affected by tuberculosis. With this conclusion we believe the majority of observers will agree. Dr. Williams and Dr. Bulstrode, in summarising the work of the Congress as a whole, consider that it was mainly "helpful in educating the public as to the manifold causes which make for tuberculosis, as to the means which may be taken to render the system relatively immune through resistance, and as to the measures to be adopted in order to avoid infection." They also point out that the Congress accomplished useful work in focussing the progress which had been made in scientific knowledge relative to tuberculosis since the London Congress in 1901 and in reducing to their proper level certain factors upon which undue stress was possibly laid in London. Another point brought to the notice of the public by this Congress was the widespread prevalence of latent or "closed" tuberculosis among school children. The delegates suggest that the general prevalence of tuberculosis, both in children and adults, indicates the need for differentiation between "open" and "closed" tuberculosis in the administrative measures which should be taken against the malady generally. This opens up a wide and difficult question which will necessitate full consideration and further research. We thoroughly agree with Dr. Williams and Dr. Bulstrode in another point which they raise—namely, that in so far as special measures are concerned there would be advantage in greater coördination between all the agencies, preventive and therapeutic, working against tuberculosis. The delegates express themselves as much impressed with the progress which has been made in Germany during recent years—a progress which they consider is to be attributed in material degree to compulsory insurance against sickness. Tuberculosis is a disease which exercises the greatest influence upon the working classes and if these classes appreciate the necessity of aiding in the enforcement of at least some of the reforms referred to in this report they will be furthering not only the battle against tuberculosis but also that against the acute infectious diseases and against ill health generally. Dr. Williams adds to the report a memorandum on considerations arising from the work of the Congress, dealing more especially with the rôle which hospitals and sanatoriums play in helping to combat tuberculosis and its spread. The whole report forms an admirable summary of the work of the Congress and fully justifies the action of Government in sending special delegates.

COUNTRY ROADS AND BRIDLE-PATHS.

THE cordial thanks of medical practitioners resident in rural districts are due to Mr. A. O. Haslewood of Buxton for his persistent efforts to bring about the proper maintenance of country by-roads and bridle-paths. Such roads, bridle-paths, and rights-of-way are to be found in great numbers in many parts of England and although their original formation has often been due to conditions which have been changed, or have even ceased to exist, it by no means follows that the roads themselves have ceased to be of public utility. In the great majority of instances they were short-cuts between places in frequent communication with each other and were valuable in saving the time and efforts of all who traversed them. Regarded from this point of view they were, and are, of special importance to country medical practitioners and consequently also to their patients, abbreviating the time which would otherwise be required to enable the medical man to reach his destination or to pass from one outlying patient to another. In these days of motor cars, in which the main country roads are often smothered in dust or crowded with vehicles calculated to frighten horses, the utility of by-roads bids fair steadily to increase, and it is nevertheless notorious that they are seldom popular with the actual occupants of the land which they traverse and that they have few friends, as a rule, in the rural district council or other authority which may exercise jurisdiction over their state. In this case, as in so many others, there is urgent need of some public body by which the proceedings of local authorities could be supervised and their defaults made good. For the last four or five years Mr. Haslewood has been active in his endeavours to bring the authorities of his locality to a sense of their duties with regard to by-roads and he has appealed, at present, it must be confessed, in vain, to the Local Government Board which, under the administration of Mr. Gerald Balfour, declared its inability usefully to intervene. There is some reason to believe that Mr. Burns is not at all unwilling to stimulate negligent local authorities to the full extent of his power and we trust that Mr. Haslewood will not be weary of well-doing. He has been steadily supported by the press of his county and he can hardly fail to carry his point in the long run. The powers of passive opposition are considerable but it is an error to regard them as inexhaustible.

THE PATHOLOGY OF SLEEPING SICKNESS.

IN an article on Sleep, Sleepiness, and Insomnia, contributed to the *Monthly Cyclopædia of Practical Medicine* (Vol. IX., p. 145, 1906) Dr. Arnold Lorand of Carlsbad suggests that the African sleeping sickness may have something to do with thyroid degeneration. He had under his care at Carlsbad an officer of the Belgian Congo State who was suffering from sleeping sickness and whose cerebro-spinal fluid contained trypanosomes. He is therefore practically acquainted with the phenomena of the disease and has come to the conclusion that it is due to thyroid degeneration brought about by the action of the toxins of the trypanosomes on the thyroid gland. One of his arguments in this connexion is to the effect that sleeping sickness presents not only all the clinical symptoms of myxœdema but also the same pathological and anatomical alterations of the central nervous system. Sleepiness is one of the cardinal symptoms of myxœdema and insomnia is a typical symptom of the opposite—namely, Graves's disease or hyperthyroidia. Dr. Lorand, therefore, believes that the thyroid gland is a powerful factor in the causation of sleep, its degeneration producing sleepiness and its hyperactivity producing sleeplessness. A further subject of interest in connexion with sleeping sickness is the announcement that the King of the Belgians, as Sovereign of the Congo State, is offering a prize of 200,000 francs, open to all nationalities, for the discovery of a method of successfully treating the disease, and will make a grant of 300,000 francs for the purpose of studying the disease with a view to its treatment and prophylaxis.

THE RÔLE OF SALAD IN THE DIETARY.

THERE is no more agreeable or refreshing addition to a cold meat collation, especially in the fine warm days of summer, than a well-made salad. It is the experience of a good many persons that the appetite becomes lessened by the sight of food, and more particularly of animal food, on a hot day, and that this is not so much the case when it is accompanied by a fresh green salad which not only renders the outlook of a meal attractive, so far as regards the palate, but encouraging also to the digestive organs. When there is no inclination to eat or when, as it is commonly said, a person does not "fancy" his food, there is, as a rule, torpidity of digestive function. With the sight of tempting food the work of the digestive organs is begun. "The mouth waters," and even the gastric juice flows in response to a pleasant impression. The salad, therefore, may fill a special and important gap in the dietary and when it is prepared with oil, as every good salad should be, it becomes an excellent and agreeable vehicle for conveying fat into the body. It is a singular fact that until quite recent years the salad was an almost ignored dish in this country and its preparation was so badly understood and its attractive qualities were thereby so impaired that few were tempted to include the salad in the daily dietary. The demand for salad has since happily grown, thanks perhaps to the experience of an increasing *clientèle* who have visited the countries of the salad connoisseur on the continent. But even now few English people realise that there is no country so favoured as is England with materials for making salad—materials which grow wild abundantly and which may be possessed for the mere plucking. As a rule, a salad conveys to the average English mind merely a dish of cultivated plants, such as lettuce, endive, cucumber, mustard, cress, onion, or radish. Such excellent wild vegetables as sorrel, dandelion, wild chicory, shepherd's purse, lady's smock, or even stone crop, all dignified by the name of weeds, are well known to our French neighbours as admirable ingredients of a salad, but such plants, though growing abundantly in every grassy meadow, are almost unknown as materials for a salad in this country. Dressed by the discreet addition of sound olive oil and pure wine vinegar, no more excellent adjunct to the cold dish can be suggested. The oil modifies and "smooths" the peculiar flavours of the juices of the plant, while the vinegar softens the tissues, renders them more digestible, and gives an agreeable piquancy to the whole. The use of salads prepared from tender plants by those who possess normal digestive powers is undoubtedly salutary and the constituents of raw green vegetables contain salts which have a favourable effect upon the condition of the blood. In cooking, of course, a large proportion of these salts is removed. It is probably the abundance of alkaline salts in green vegetables which makes them of service in some diseases of the skin. In this connexion it is interesting to recall that scurvy grass, or more correctly scurvy cress, is the name given to certain species of British plants belonging to the mustard family, the leaves of which have anti-scorbutic properties and are eaten for that purpose as a salad. It may also be noted that the expression, "I do not care a curse," was originally, "I do not care a cress," the word cress being used much in the sense of "straw," that is, a substance of comparative worthlessness. In conclusion, it may be observed that great as are the attractions of salad to most people some few on the contrary altogether fail to find it to their liking.

PRE-TUBERCULOUS HÆMORRHAGIC PURPURA.

AT a meeting of the Société Médicale des Hôpitaux of Paris on April 6th M. P. Carnot, M. R. Bensaude, and M. P. Harvier reported the following important case. A woman, aged 22 years, was admitted into hospital on Jan. 16th, 1906, presenting a purpuric eruption and hæmorrhage from the nose and gums. She had enjoyed good health until the end of December, 1905, when she caught cold, coughed a little, and began to waste. On the night of Jan. 13th, 1906, hæmorrhage from the gums began and it continued on the following day, when she noticed a violaceous spot on the right breast. On the night of the 15th there was abundant epistaxis which lasted ten minutes, and stopped spontaneously. On the morning of the 16th the epistaxis recurred and was slow but continuous. At the same time the urine was red as if tinged with blood. On examination she was found to be very wasted and extremely pale, the mucous membranes being completely decolourised; the temperature was 101·3° F.; the pulse was 112 and small. On the lips, the chin, and the temporal regions were petechiæ of the size of the head of a pin. Irregularly scattered on the front of the chest were lenticular hæmorrhages. The abdomen was retracted and presented two or three hæmorrhages. The limbs were covered with petechiæ. On the lower limbs were slightly indurated ecchymoses of the size of a five-franc piece and petechiæ. The tongue was furred and rather dry and showed a few purpuric spots. Signs of pulmonary tuberculosis were carefully looked for but none could be found and the patient neither coughed nor expectorated. The anterior nares were plugged with pledgets containing adrenalin and 200 cubic centimetres of distilled water were injected into the veins. On the 18th the hæmorrhage from the nose and gums recurred and at the point where the injection was given there was a large ecchymosis. On the following days the epistaxis recurred from time to time. On the 24th the liver was found to extend two fingers' breadth below the ribs and the spleen to be enlarged slightly. The temperature was 99·5° in the morning and 104·3° in the evening. On Feb. 1st there was diarrhœa with passage of whitish, fœtid stools. On the 8th there was some general improvement and the diarrhœa stopped. On the 13th the eruption had disappeared and the liver scarcely extended beyond the ribs. On the 16th there were slight cough and some mucous expectoration. On the 20th the patient was distinctly improved and was putting on flesh and gaining colour. But the percussion note under the right clavicle was elevated in pitch, the vocal fremitus was increased, inspiration was harsh, expiration was prolonged, and after coughing crepitations were heard. The sputum contained a few tubercle bacilli. On the 22nd the urine contained a little pus and some tubercle bacilli. Purpura hæmorrhagica may have several relations to tuberculosis. In one group of cases purpura occurs in patients suffering from acute tuberculosis. In a second group purpura occurs during chronic tuberculosis. In a third group the purpura precedes the manifestations of tuberculosis, as in the case related above, or occurs in the subjects of latent tuberculosis.

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the National Committee for Great Britain and Ireland was held at the rooms of the Medical Society of London recently, when there were present, amongst others, Dr. F. W. Pavy, Sir Dyce Duckworth, Deputy Inspector-General A. J. J. Johnston, R.N., Mr. W. H. H. Jessop, Mr. George Jackson, Dr. Boyd B. Joll, and the honorary secretaries, Dr. Clive Riviere and Mr. D'Arcy Power. A report upon the Lisbon Congress was read and adopted. It stated that about 75 British members had attended the Congress and that communications had been made to the sections by Dr. Pavy, Professor Rubert Boyce, Professor R. J. Anderson, Dr. Gustav Mann, Dr. E. F. Bashford, Sir Dyce Duckworth, Dr. Boyd Joll, Dr. F. W. Mott, Dr. D. Ferrier, Dr. H. Radcliffe Crocker, Dr. Stanley B. Atkinson, Mr. D'Arcy Power, and Mr. Kenneth W. Goadby. Attention was also drawn to the fact that by the appointment of Sir Dyce Duckworth by His Majesty's Honourable Privy Council the British Government had been for the first time represented by a delegate. Votes of thanks were ordered to be given to Professor Bombarda, the secretary-general of the Lisbon Congress, for the admirable manner in which he had organised the meeting and to the British colony at Oporto for the hospitality which they had extended to the British members of the Congress who had visited that city. The proceedings closed with a vote of thanks to the Medical Society for the use of the room.

THE COMPLICATIONS OF CHICKEN-POX.

IN the great majority of cases chicken-pox is of so mild a character that very little disturbance of the general health occurs except some slight malaise a few hours before the eruption with or without a small rise of temperature; moreover, apart from complications incidental to the skin lesions such as infection by pyogenic organisms and subsequent scarring complications and sequelæ are comparatively uncommon. Nevertheless, as in the case of nearly all the eruptive fevers, a hæmorrhagic form of the disease has been described, although it is of very rare occurrence. An interesting case of this kind has just been recorded in THE LANCET[1] by Dr. C. Rundle. The patient was a boy, aged two years, who presented at first the appearance of a case of varicella of moderate severity. On the second day of the eruption the parents noticed the occurrence of bleeding into the spots, while when admitted to the hospital on the third day there were extensive hæmorrhages not only into the vesicles but also scattered profusely over the trunk, the shoulders, the thighs, and the legs. In spite of this the general condition of the child appeared to be very satisfactory but next day the hæmorrhages extended more widely and extravasation occurred under the conjunctiva of the right eye and also in the lips and gums, death occurring on the morning of the fifth day of the disease with signs of toxæmia. Dr. Rundle's case is carefully recorded and the diagnosis from the other hæmorrhagic diseases of infancy and childhood is given. He appends references to other recorded cases, which are very few in number. The rarity of the condition may be inferred from the fact that in many of the larger text-books and encyclopædias of medicine no mention is made of it, while in others it is dismissed with very scant reference. The hæmorrhages usually occur into the tissues at the base of the pocks and into the skin apart from them. In some cases bleeding occurs from the mucous membranes, even before the appearance of the cutaneous lesions of the disease, but these mucous hæmorrhages may be entirely absent, as in Dr. Rundle's case. In a few cases blood in the stools may occur without other hæmorrhagic manifestations. Another rare variety of varicella is the confluent form, of which two cases have recently been referred to in our columns, one recorded by Dr. J. D. Rolleston,[2] in which hæmorrhages also occurred into a few of the vesicles; the second by Dr. J. T. Neech.[3] Nephritis may also occur during the course of varicella in rare cases, as first observed by Henoch. Even with these serious complications the disease is usually recovered from but death may in very rare cases result in the hæmorrhagic cases and in those complicated by nephritis.

THE EXAMINATION OF FOOD IN THE BOROUGH OF STEPNEY.

IN his report recently presented to the public health committee of the borough council of Stepney Mr. D. L. Thomas, the medical officer of health, points out, amongst other things, a factor that may cause tinned food to be dangerous although the food itself appears perfectly wholesome and there is no sign of decomposition, and that is the contamination of the contents with tin or lead which may be considerable when the canning is old. During the last few years he has frequently analysed the contents of old tins which were found "to contain such large quantities of tin, together with occasionally small quantities of lead as to be positively dangerous." The tins showed no sign of bulging and when they were opened the contents appeared to be wholesome and tasted as well as any freshly-cooked meat. The maximum amount of tin (grains per pound) found in canned goods was as follows :—Lobster, 2·94; mackerel, 0·55; pineapple, 2·97; salmon, 1·32; condensed milk, 2·37; apricot, 2·92; raspberry pulp, 0·65; tinned eggs (liquid), 0·55; ham, 0·50; black currant pulp, 1·96; apricot pulp, 0·60; and peas, 0·88. Lead was found in the salmon only and then it was but a trace. In one instance some raspberries sent from New Zealand had been preserved with sulphurous acid which, however, discoloured them; the colour was restored by soaking the fruit in an aniline dye. Mr. Thomas summarises his results by saying that (1) decomposed food will as a rule in time cause bulging of the tins; (2) experienced men only can detect the presence of putrefaction of the contents when the gas is not sufficient to cause bulging; (3) blown tins are apparent to all and when opened the contents are offensive; (4) tin, and on rare occasions lead, may be present in such quantities as to be injurious to health though the food itself may appear to be quite wholesome (their presence can only be detected by chemical examination); and (5) diseased meat may have been used (no practical examination will detect the presence of such diseased meat once it has been tinned, for a bacteriological examination of a few tins out of each consignment would not be a guarantee of the condition of the contents of the remainder).

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[1] THE LANCET, June 16th, 1906, p. 1692.

[2] THE LANCET, Feb. 3rd, 1906, p. 313.

[3] THE LANCET, Feb. 24th, 1906, p. 515.

THE Department of Public Health of Queensland in its Plague Bulletin, No. 10, states that for the week ending May 12th no new case was reported in either Brisbane or Rockhampton. In Brisbane the date of the last case was April 30th and no patients remained under treatment. In Rockhampton the date of the last case was May 1st, the last plague-infected rat was found on May 5th, and 6 patients remained under treatment. The medical officer of health of the Cape Colony states that during the week ended May 26th there were 72 rats and 64 mice bacteriologically examined, of which 8 rats and 1 mouse proved to be plague-infected. In Hong-Kong 57 cases of plague and 45 deaths were reported during the week ended June 16th.

AN extra meeting of the Royal Medical and Chirurgical Society will be held at 20, Hanover-square, London, W., on Tuesday, June 26th. This meeting has been called owing to the number of papers in hand. The following papers will be read: On Appendicitis and Gangrene of the Appendix considered as Separate Diseases, by Mr. John D. Malcolm, and on Submucous Excision of Deviations and Spurs of the Nasal Septum, with a Report of 30 Operations, by Dr. StClair Thomson.

Dr. R. Murray Leslie has, on the recommendation of M. Cambon, the French Ambassador, received the Order of Officier d'Académie Française. Dr. Leslie is senior physician to the Tottenham Hospital and lecturer in medicine at the North-East London Post-Graduate College connected therewith and physician and pathologist to the Royal Hospital for Diseases of the Chest, City-road, London, E.C.

IN connexion with the opening of the King Edward VII. Sanatorium at Midhurst last week the King has conferred upon Dr. C. Theodore Williams the membership of the Fourth Class of the Royal Victorian Order, and on Dr. P. Horton-Smith-Hartley, who acted as honorary secretary of the executive committee of the sanatorium, the membership of the Fifth Class.

THE King has promoted Mr. Andrew Clark, F.R.C.S. Eng., and Mr. Robert Jones, M.D. Lond., from Honorary Associates to be Knights of Grace of the Order of St. John of Jerusalem in England.

The annual garden party will be held at Guy's Hospital on Wednesday, July 4th, when Sir W. Cameron Gull, Bart., will distribute the medals and prizes to the successful students.

The Right Hon. R. B. Haldane, K.C., M.P., His Majesty's Secretary of State for War, will distribute the prizes at the London Hospital Medical College on Friday, July 13th.

Dr. T. F. Pearse has been appointed acting health officer to the city of Calcutta for a period of seven months.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

(Concluded from p. 1632.)

Cardiac Symptoms in Acute Polymyositis.

DR. LORENZ (Graz) said that in this disease, the bacteria of which had not yet been discovered, not only the muscles but also the subcutaneous tissue and the mucous membrane were implicated. The muscular substance of the heart was believed to become affected only in cases where the myositis was of a hæmorrhagic character—hæmorrhagic polymyositis. Recent experience showed that cardiac myositis might be absent in hæmorrhagic polymyositis. The lesion of the heart muscle in polymyositis might be either hæmorrhagic myositis or simple myositis but suppuration never occurred. The clinical symptoms were very characteristic. The first indications were tachycardia or arrhythmia, which was followed by a feeling of urgent distress (*Angstgefühl*) with severe dyspnœa and clonic contractions of various muscles, the cardiac action being also stopped for several seconds, so that death might at once occur. On the other hand, the attack might pass off and reappear with varying intensity.

The Pathogenesis of Stokes-Adams Disease.

Professor SNYERS (Liége) said that the principal theories proposed in explanation of this condition were three in number. One of them regarded degeneration of the heart muscle as the cause of the symptoms; the second held that the medulla oblongata was at fault; while in the third place pathological changes in the coronary vessels or in the vessels of the medulla oblongata or of the vagus nerves were supposed to be the essential lesions. It must, however, be admitted that the pulsus lentus permanens was a symptom occurring in a variety of pathological conditions in which the vagus nerve was irritated. Stokes-Adams disease was therefore to be regarded not as a distinct disease in either an anatomical or a pathological sense but rather as a symptom.

Intravenous Injections of Strophanthus in Diseases of the Heart.

Dr. FRAENKEL (Badenweiler) said that the action of intravenous injections of strophanthus on the heart was very prompt and trustworthy; especially in œdema the effect of this remedy was maintained as long as when digitalin was employed.

The Normal Position and Size of the Heart.

Dr. DIETLEN (Munich) said that the size of the heart depended on the stature, the weight, the age, and the sex of each individual and that normal measurements might be obtained from those data. The position of the heart in the thorax depended on the diaphragm and was therefore different in the male and female sex. The form of the normal heart had a relation to the form of the thorax.

Transcortical Motor Aphasia.

Dr. ROTHMANN (Berlin) said that the transcortical motor aphasia as described by Lichtheim and Wernicke was rather indefinite from the clinical and anatomical point of view. According to Professor Lichtheim, the characteristic symptoms were that the patients could not either say or write anything original, but they were able to write from a copy or from dictation and to repeat words and he considered that a centre in the third frontal convolution was at fault. Up to the present time, however, no sufficiently definite case has been observed, as sometimes lesions of the cortex of Broca's convolution and sometimes diffuse encephalitis were present as the cause of the form of aphasia described. The affection was therefore by some authors regarded as a functional derangement of Broca's centre. Dr. Rothmann has recently observed a case in which the aphasia in question was the sequel of an apoplectic fit which had occurred six years previously; the necropsy showed a sclerotic focus in the third convolution. Transcortical motor aphasia was caused by an interruption of the association fibres between Broca's centre and the operculum.

X Rays in the Treatment of Chronic Bronchitis.

Dr. SCHILLING (Nuremberg) said that he had treated a series of patients suffering from bronchitis by means of the Roentgen rays. One case excepted, the results were favourable as the bronchial secretion decreased. Even in cases of some months' duration the expectoration became less copious and in some instances totally disappeared without any undesirable complications. The general state of the patients and their respiratory difficulties were also relieved.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin Correspondent.

The Significance of Pyrexia in Disease of the Bile Passages.

Professor EHRET (Strasburg) said that in five out of 22 patients suffering from cholecystitis he had discovered in their blood micro-organisms which after the operation were found to be present in the gall-bladder also. The occurrence of pyrexia in diseases of the gall-bladder was the symptom of an infectious process. Highly infectious conditions might, however, be present in patients showing either no pyrexia or very little, especially in relapsing cases. These clinical observations were made comprehensible by the hypothesis that alexic substances were produced by the infection of the gall-bladder. The alexins were apparently of general and local nature. Professor Ehret had been able to produce in dogs which had recovered from an infection of the gall-bladder a new infection of the same kind but without fever.

"Functional" Diagnosis of Disorders of the Circulation in the Early Stage.

Dr. RAAB (Munich) described a method which he said would enable practitioners to ascertain the power of the heart muscle and of the arteries. In it the usual methods of auscultation and percussion were supplemented by measurements of the capillary and arterial blood pressure before and after a certain amount of exercise. Strassburger's method of measuring the systolic and diastolic blood pressure was to be used and pulse tracings were to be taken before and after the exercise. In this way medical men might ascertain the distribution of the blood in the arterial and capillary vessels and might diagnose disorders of the circulation previously to the appearance of grave symptoms.

Anuria in Diseases of the Kidney.

Dr. PÄSSLER (Dresden) said that he had observed a case of total anuria prolonged for 11½ days and then terminating fatally without the occurrence of symptoms of uræmia. He therefore concluded that Senator was right in his opinion that the uræmic toxin was not present in normal urine. The increase of blood pressure observed in anuria was not in accordance with Loeb's theory as to the increase of blood pressure in nephritis. Œdema might be absent even in cases of anuria in which great quantities of fluid were retained in the tissues. Dr. Pässler therefore assumed the existence of two clinically and etiologically distinct forms of œdema in diseases of the kidney—namely, an extrarenal anasarca and a "nephrogenic" œdema.

Professor TALMA (Utrecht) reported that he had discovered that the life of guinea-pigs without kidneys or with ligatured ureters was preserved for some time when blood or ascitic fluid of uræmic patients or rabbits was injected.

Amylosis Pulmonum.

Professor VON JAKSCH (Prague) said that he had seen a case in which the sputum showed the starch reaction with iodine. This symptom even continued when the patient's food did not contain any carbohydrates. The amylaceous substance had therefore apparently formed a collection in the lungs just like siliceous or carbonaceous particles in the lungs of stone-workers or coal-miners respectively. The late Professor Gerhard had suggested from a theoretical point of view that flour must be present in the lungs of bakers and the above case showed that his suggestion was practically right.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on June 14th, Mr. JOHN TWEEDY, the President, being in the chair.

It was reported that at the First Fellowship Examination held in May last 111 candidates presented themselves, of whom 41 were approved and 70 were rejected.

It was resolved to issue Diplomas of Fellowship to 16 successful candidates at the late Second Fellowship Examination.

It was resolved to issue Diplomas in Dental Surgery to 37 successful candidates.

A summary of the history of the College was read; it had been prepared by the President and the secretary. It was resolved to publish it in the College Calendar.

The following examiners were appointed in accordance with the recommendations of the nomination committee:—Elementary biology: Thomas G. Stevens and H. W. Marett Tims. Anatomy for the Conjoint Examining Board: Christopher Addison, Arthur Keith, James Ernest Lane, and Holburt Jacob Waring. Physiology for the Conjoint Examining Board: T. Grigor Brodie, John B. Leathes, and W. H. Thompson. Anatomy for the Fellowship Examination: Christopher Addison, Louis Albert Dunn, W. McAdam Eccles, and Arthur Keith. Physiology for the Fellowship Examination: De Burgh Birch, Leonard Erskine Hill, Edward Waymouth Reid, and Ernest Henry Starling. Midwifery for the Conjoint Examining Board: George Francis Blacker, Arthur H. Nicholson Lewers, William Rivers Tate, and Walter W. Hunt Tate. Examiners in Public Health: Part I., Harold R. D. Spitta; Part II., Herbert Timbrell Bulstrode.

A letter was read from Mr. Henry Morris reporting the proceedings of the General Medical Council at its recent session. The best thanks of the Council were given to Mr. Morris for his services as the representative of the College in the General Medical Council.

It was resolved to erase from the Dentists' Register three names. This was done in accordance with Section 13 of the Dentists Act of 1878—namely: "Any name erased from the Register in pursuance of this section shall also be erased from the list of licentiates in dental surgery or dentistry of the medical authority of which such person is a licentiate."

It was resolved to restore to the Register the name of a former Member of the College who had been removed.

A report was received from the committee appointed on April 5th, 1906, to consider the question of admitting women to the examinations of the College. The committee in its report considered that the time had come for affording once more to the Fellows and Members an opportunity of expressing an opinion in the matter. The Council resolved to refer to the committee the question of the time and manner of the proposed consultation of the Fellows and Members on this subject.

A letter was read from Mr. R. A. Robinson, President of the Pharmaceutical Society, calling attention to the amendment recently carried in the House of Lords on the Poisons and Pharmacy Bill to the effect that a company or body corporate composed of unqualified persons may use the title of "chemist," provided it has in its employ a person who is qualified under the Pharmacy Act; suggesting that this decision, if allowed to become law, may have far-reaching results not only to chemists but also to surgeons, dentists, and other individuals who are required by law to possess a personal qualification; and expressing the hope that the Council of the College may see fit to exert its influence in protesting against the establishment of such a dangerous precedent and take such steps as it may deem necessary to impress upon the Government the danger to the public and the great injustice to qualified persons involved in such proposed legislation. It was determined to request the President and Vice-Presidents to communicate with the Privy Council and to express the opinion of the Council of the College as to the undesirability of the proposed legislation.

A letter was read from the Physiological Society calling attention to the proposed appointment of a Royal Commission to consider the conditions under which experiments on animals are at present permitted; and asking the Council to appoint one or more delegates to aid in the formation of a Central London Committee to coördinate the efforts of the various learned societies interested in biological research. —Mr. R. J. Godlee and Mr. C. H. Golding-Bird were appointed delegates.

A letter was read from Mr. J. Gray stating that he had been requested by the Council of the Anthropological Institute to organise a deputation to the Prime Minister to urge him to appoint a committee or Advisory Council on the lines recommended by the Interdepartmental Committee on Physical Deterioration, to carry out an anthropometric survey of the *United Kingdom*; and asking whether the College will join such a deputation in the event of the Prime Minister consenting to receive it.—Mr. Arthur Keith was appointed as the representative of the College on the deputation.

The PRESIDENT stated that he had instructed the librarian to deliver to Dr. Walter Chase of Boston for presentation to the Medical School of Harvard University 77 prints and engravings of physicians and surgeons of the eighteenth and earlier centuries, selected from duplicates in the library collection. A letter was read from Dr. Chase stating that it would give him much pleasure to present the gift to the Harvard Medical School.

The PRESIDENT reported that a meeting of Fellows would be held on Thursday, July 5th next, for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Mr. John Langton, Mr. Henry Morris, and Mr. Francis Richardson Cross, of whom Mr. Langton did not propose to offer himself for re-election.—It was resolved to give the best thanks of the Council to Mr. Langton for his services to the College and the Council during his long period of office.

Dr. J. WARD COUSINS gave notice of the following motion for the next meeting of the Council:

> It is the opinion of the Council of the Royal College of Surgeons of England that the Midwives Act as it now stands is unfair to the medical profession, as it contains no provision to secure just remuneration for professional services rendered during the attendance of midwives practising under legal supervision.

THE STATE REGISTRATION OF NURSES.

Lord Crewe, the Lord President of the Council, received an important deputation to protest against the Bill now before Parliament for the registration of nurses on June 14th at the Privy Council Office, Whitehall, London. The deputation was organised by the Central Hospital Council for London and amongst those present were Mr. H. A. Harben, L.C.C., the Hon. Sydney Holland, Dr. W. H. Allchin, Dr. J. Kingston Fowler, Sir Thomas Barlow, and Sir Frederick Treves. There were present also the Duchess of Bedford, the Marchioness of Salisbury, the Countess of Pembroke, the Viscountess St. Aldwyn, Lady Raleigh, Lady Northcliffe, and the Hon. Maude Stanley. Several matrons of London and provincial hospitals attended.

Mr. HARBEN, chairman of the Central Hospital Council for London, in introducing the deputation, said that the council which he represented was opposed to the State registration of nurses. It was claimed that registration would prevent the employment as nurses of women who were not properly trained for the work and that it would enable the public when engaging a nurse to distinguish between one who was efficient and one who was not. It had, however, to be remembered that in the majority of cases nurses were not engaged by the patient but through a medical man who had every opportunity of knowing the character of nurses supplied by the various hospitals and associations. That the work of some nurses was bad was admitted but their inefficiency was often due to causes apart from lack of training. It was of the utmost importance that very poor people should be able to obtain the services of nurses willing to accept a lower rate of pay than was demanded by fully trained nurses. Once registered it would be a most difficult matter to remove a nurse's name from the list; in fact, it would be almost impossible unless she were guilty of some criminal offence. The alternative which the council desired to propose was the institution of an official directory, recording particulars of name, places, dates, and periods of training and appointments.

The Hon. SYDNEY HOLLAND pointed out that the matrons of the London and St. Bartholomew's Hospitals had not had the training which would qualify them to be placed on the proposed State register of nurses. That scheme would cast a slur upon many women doing most excellent work. If there were a State register the State would have to guarantee that all persons whose names were upon the register were fit and proper persons to discharge the duties of nursing. To effect that would be impossible but an official directory as proposed by the Central Hospital Council would answer the purpose required.

Sir THOMAS BARLOW said that although he was not a member of the Central Hospital Council he was in sympathy with its views on this question and was glad to be allowed to say a word in support. He believed that if the State registration of nurses were carried out as had been suggested, it would be a momentous step and fraught with risk to the proper relationship of nurses, medical men, and the public. If the great mass of medical men concerned with private nursing were polled the majority of their complaints would be found not to refer to unskilfulness of nursing but to questions of discipline and conscientious discharge of duty. For the most part medical men found nurses exceedingly obliging and willing, but there were certain nurses who, in the medical man's presence had a smooth tongue and pleasant manner but during the still hours of the night these same nurses acted very differently to the patient, for then it was that the tyranny and neglect of bad nursing came into operation. It was often very difficult to deal with such neglect. He believed that the only way in which it was at all possible to deal with questions of conduct and discipline was to support nursing organisations which were in active relationship with the great hospital training schools or with a very strong executive. Moreover, nurses ought to go back from time to time to the hospitals to learn the latest methods of surgical and medical treatment. By such means efficiency could at all events be striven for and slackness be neutralised. On the other hand, the suggested State registration would make for finality and lessen the laudable ambition for perfection. It would tend to establish the absolute autonomy of the nursing community and to render nurses independent of that amount of supervision and review which was desirable in the interests of sick people. In fact, the result of State registration would be to make nurses practically independent of medical men, hospital matrons, and nursing superintendents. Many faults would pass unnoticed, for, except on the ground of grave delinquency, a medical man would be most reluctant to report a nurse to the registration authority and thus seriously to imperil the nurse's livelihood. Whilst placing the needs of the public first Sir Thomas Barlow said that he warmly sympathised with the desire of nurses that their work and training should be properly recognised and that their service should be adequately paid and he considered that the proposed voluntary official directory would meet the claim and aspirations of a good nurse and would to a large extent set forth what the nature and amount of her experience had been. On the other hand, he objected to the proposed State registration because the method copied the bad side of trade unionism in reducing all to the same dead level. At the present time the education of nurses was passing through a transition period. He believed that it was too academic and that there was too much book work. It was quite certain that there were many first-rate nurses who would be entirely disqualified for State registration by their inability to answer examination papers. He trusted that there would be considerable modification; it was undesirable that the training and examination should be crystallised in their present form as would be the case if State registration were adopted now. He advised that the subject should be allowed to remain quiet for a little longer, so as to give the hospital training schools a chance of working the matter out on the best lines. Considerable variety and freedom in methods of training and testing, so far from being a calamity, were a positive advantage in the gradual evolution of the best scheme and in the preparation of different types of nurses suitable for different kinds of work. Turning to the question of inefficient care in private nursing homes, Sir Thomas Barlow affirmed that if the scheme of an official directory of private nurses were adopted it would make for the security of the public. Many "homes" were excellent and their fees were well earned, but in some of them there was a mercenary spirit with respect to the quality of night nurses supplied. Untrained probationers were not infrequently employed. If the proposed directory were instituted then patients going into the nursing homes ought to have the right to see the list of the qualifications and experience of the respective nurses to be set apart for their care.

Lord CREWE, in reply, pointed out that among those who were in favour of State registration there were many whose opinion certainly could not be ignored, whilst it was also impossible to ignore the conclusions arrived at by the committee which sat in 1904–05. He was obliged to tell them, as he had informed another deputation, that it was impossible for the Government to take this matter up at present—certainly not in the coming session. Although there could not be any Government action in the near future he promised full consideration by his department of the representations made by the deputation.

Mr. HARBEN expressed the thanks of the deputation to Lord Crewe for his courteous reception of their views.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 21st, 1828.

WATER-PROOF CLOTH URINALS.

IN a communication from Mr. W Maclure, of Harley Street, Cavendish Square, we are informed, that a new and useful application of the "Glasgow water-proof cloth" is found in the manufacture of Urinals. This water-proof cloth, of which a Mr. Mackintosh is patentee, according to Mr. Maclure, is composed of two layers of cotton cloth, with "an intervening layer of a glutinous solution of caoutchouc," and it has been extensively used for various purposes, in the manufacture of life-preservers, &c. From its possessing the property of being impervious to air as well as to water, the patent cloth has likewise been used for the making of cushions and pillows, which are so formed as to be readily inflated with air when required. Mr. Maclure justly remarks, that it is somewhat singular surgeons have not availed themselves of the use of this cloth, as there are many cases in which it would contribute greatly to the comfort of the patient, and in none more obviously than in cases of incontinence of urine. The glass, or earthenware urinals, are objectionable, on account of their liability to be broken, as well as on account of their bulk and unyielding nature; and, although they may be used *occasionally*, they cannot be kept constantly applied so as to receive the urine when it dribbles from the body. The water-proof cloth urinal, which is an admirable substitute in such cases, is made of a conical shape, and draws together at the mouth by means of tape. There are attached to it two long and two short tapes; the former, after having puckered the mouth of the urinal around the root of the penis, are passed round the body in opposite directions, and then tied in front. The short tapes are intended for the purpose of encircling the scrotum. It is further stated, that the urinal may be conveniently worn during the day, which is, indeed, a most important qualification. Care must be taken not to make an aperture in the urinal, in which case it is spoiled; and, to remove the fœtor, which it otherwise acquires by use, it is frequently to be washed in warm water without soap.

INDIAN MEDICAL SERVICE: THE ANNUAL DINNER.

THE annual dinner of the Indian Medical Service was held on June 14th at the New Gaiety Restaurant and was well attended. There were *no speeches*, the chairman, Surgeon-General L. D. Spencer, C.B., briefly pointing out that the occasion was meant not for the exercise of oratory but to afford an opportunity for the meeting of old friends and the cementing of ties. The evening was treated in exactly this way and was consequently thoroughly enjoyable.

The members of the service present were:—*Surgeon-Generals:* A. M. Branfoot, C.I.E., W. R. Browne, J Cleghorn, C.S.I., Sir B. Franklin, K.C.I.E., G. W. R. Hay and P. W. Sutherland. *Colonels:* C. W. Carr-Calthrop, W. E. Cates, D. E. Hughes, and G. S. Sutherland. *Lieutenant-Colonels:* C. Adams, E. Bovill, Sir H. H. R. Charles, K.C.V.O., E. F. Drake-Brockman, P. J. Freyer, W. Gray, Sir A. S. Lethbridge, K.C.S.I., D. P. MacDonald, J. Moorhead, W. Owen, P. D. Pank, T. H. Pope, C. J. Sarkies, A. E. R. Stephens, C. L. Swaine, W. H. Thornhill, J. F. Tuohy, and A. C. Younan. *Majors:* W. H. Caldwell, J. T. Calvert, R. H. Castor, L. F. Childe, J. K. Close, F. C. Clarkson, G. F. W. Ewens, T. W. A. Fullerton, C. R. M. Green, S. H Henderson, C. A Johnston, A. H. Nott, W. H. Orr, H. W. Pilgrim, H. A. Smith, and E. Wilkinson. *Captains:* H. R. Brown, Young A. W. Cook, H. M. Cruddas, J. D. Graham, R. L. Hagger, W. G. Hamilton, J. H. Hugo, D S.O., D. C. Kemp, W. H. Kenrick, A. Miller, W. J. Niblock, E. L. Perry, M. B. Pinchard, N. R. J. Rainier, J. W. F. Rait, F. A. Smith, L. P. Stephen, T. H. Symons, R. G. Turner, and F. N. White.

The guests were:—Sir Richard Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London; Inspector-General H. M. Ellis, Director-General, R.N. Medical Service; Surgeon-General A. H. Keogh, C.B., Director-General, A.M.S.; Mr. Austin Low, Dr. Dawson Williams, and Dr. S. Squire Sprigge.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Huddersfield.—A very comprehensive scheme for dealing with infantile mortality is now in operation in Huddersfield where a fee of 1*s.* is paid for every birth notified to the medical officer of health within 48 hours of its occurrence. In November and December of 1905 there were 142 notifications received, there being during the same two months 380 births. The present scheme embraces both official and voluntary helpers, the borough being divided for administrative purposes into nine districts. These districts have been allotted to two official lady health visitors who are, it is important to note, both duly qualified medical practitioners. Acting under these health visitors, and of course under the general superintendence of the medical officer of health, are 16 lady superintendents, the number in each district ranging from one to five, while under these superintendents, who are all voluntary workers, are 82 lady helpers, also voluntary, the number in each district varying from two to 20. With a scheme such as this much good should result assuming that there is an efficient and tactful organisation. The newly born children are visited as soon as practicable by one of the qualified health visitors who gives advice and leaves simple and helpful literature. On every Saturday each of the lady superintendents distributes the cases in her district among the lady helpers.

Metropolitan Borough of Battersea.—Dr. G. F. McCleary in presenting what will be his last annual report for this borough furnishes a table showing for each of the years 1898 to 1903 the number of deaths recorded on each day of the week from "overlying." It was found that by far the greater number of deaths were discovered on Sunday morning, a fact which suggests that the "overlying" was due in large measure to the influence of alcohol on the parents. Such deaths, as Dr. McCleary points out, should be had regard to in estimating the mortality due to alcohol. The relation of excess of alcohol to public health is by no means so remote as was once believed and the Battersea borough council is moving in the right direction in endeavouring to make known the deleterious action of alcohol in excess. As regards the Battersea milk depôt, Dr. McCleary reports that the death-rate among the children attending it was for 1905 105·7 per 1000, and he adds that the depôt children must by no means be regarded as a normal population, seeing that nearly 50 per cent. of them are taken to the depôt on account of ill-health.

Manchester Port Sanitary District.—We are glad to learn from the last annual report of Dr. A. M. N. Pringle, medical officer of health of the Port of Manchester, that the sanitary authority is endeavouring to obtain power to inspect the food-stuffs introduced into this country *viâ* the Manchester Ship Canal, and we trust that in future more attention will be paid to this matter by port authorities throughout the country. The subject is indeed of such importance that we would suggest the desirability of the attention of port sanitary authorities being called to it by the Local Government Board. Dr. Pringle adverts again in his annual report to the difficulty which obtains in securing reasonable forecastle accommodation for the crew of smaller vessels so long as the Board of Trade is content with such a small amount of cubic space per head and when the lighting of the cabin is often so bad that it is quite impossible to obtain really healthy and cleanly conditions. Yet these places being passed by the Board of Trade as fit for the accommodation of so many *men it is impracticable,* and in a sense illogical, for the port sanitary authority to interfere. It is certainly regrettable that more attention is not paid to the sanitation of our floating houses at the time when the plans for their construction are being drawn.

City of Coventry.—The antivaccinationists in Coventry have not much cause for complaint in the matter of obtaining certificates of exemption seeing that for the last four years the applications have been granted in every instance. In Coventry 84 per cent. of the children born are duly vaccinated, 8 per cent. of those not vaccinated are accounted for by death before vaccination and 11 per cent. are accounted for by the number of exemptions obtained. Dr. E. H. Snell, the medical officer of health, draws attention to the fact that there are certain difficulties in connexion with the procurance of accurate death returns. In a case to which he refers a patient certified to have died from enteric fever was found, as the result of a necropsy held to clear up a doubt, to have died from another cause. It was found, however, that the certificate could only be altered by a statutory declaration and the payment of a fee and, as Dr. Snell observes, it seems unwise thus to handicap endeavours to procure accuracy of our death returns. The Registrar-General was appealed to and he suggested that the entry in the register might remain and that he would have the necessary correction made in the death returns. Clearly there are objections to altering the actual entry in the register without some legal formality. Dr. Snell states that during 1905 six deaths were registered in Coventry as due to chronic alcoholism and 13 to cirrhosis of the liver, while the deaths of five infants were brought about by "overlying." In his view "the actual effect of alcohol on the death roll is one which it is impossible to ignore," and he adds that the fact of the death certificate having to be delivered by the medical attendant to the relatives and by them given to the registrar is liable to introduce a somewhat lenient aspect into certification generally. In connexion with the question of alcoholic excess, Dr. Snell reports that some of the inferior public-houses in Coventry are in fact, though not technically, common lodging-houses and that considerable overcrowding takes place in them. In one such house where upon the common lodging-house standard there would have been 13 beds 21 beds were found and, in addition, there were 13 persons who, having no beds, had slept presumably on the floor in the kitchen and passage. Obviously some systematic control of places such as these is desirable.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9100 births and 3924 deaths were registered during the week ending June 16th. The annual rate of mortality in these towns, which had steadily declined in the eight preceding weeks from 17·3 to 12·9 per 1000, was again 12 9 last week. During the first 11 weeks of the current quarter the death-rate in these towns averaged only 15·3 per 1000; in London the mean rate during the same period did not exceed 15·2. The lowest death-rates during last week in the 76 towns were 5·1 in Willesden, 5·2 in East Ham, 5·4 in Hornsey, and 6·9 in Bournemouth; the rates in the other towns ranged upwards to 18·8 in Warrington, 19·4 in Liverpool, 20·6 in St. Helens and in West Hartlepool, and 21·4 in Middlesbrough. The 3924 deaths in the 76 towns showed an increase of but 17 upon the exceptionally low number returned in the previous week, and included 370 which were referred to the principal epidemic diseases, against 441, 408, and 375 in the three preceding weeks; of these, 148 resulted from measles, 77 from whooping-cough, 63 from diarrhœa, 39 from scarlet fever, 33 from diphtheria, ten from "fever" (principally enteric), and not one from small-pox. The deaths from these infectious diseases were equal to an annual rate of 1·2 per 1000 in the 76 towns and to but 1·1 in London. No death from any of these infectious diseases was registered last week in Stockport, Northampton, St. Helens, York, or in 11 other smaller towns, whereas they caused death-rates exceeding 2·8 per 1000 in Liverpool, Manchester, Salford, Halifax, and Burnley. The highest death-rates from measles occurred in Halifax, Bradford, Huddersfield, Manchester, Salford, and Burnley; and from whooping-cough in Liverpool, Swansea, Walsall, Reading, and Warrington. The 63 deaths referred to diarrhœa showed an increase upon recent weekly numbers. Scarlet fever caused the highest proportional death-rate in Hastings and diphtheria in Halifax and Middlesbrough. The ten deaths referred to "fever" were fewer than in any previous week of this year. Seven cases of small-pox were under treatment in the Metropolitan Asylums hospitals at the end of last week, one new case having been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, June 16th, was 2677, showing a further increase upon recent weekly numbers; the 355 new cases admitted during the week showed a further increase of 11 upon those returned in recent weeks. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had steadily declined in the eight preceding weeks from 399 to 152, further fell last week to 142 and were 20 below the corrected average for the corresponding week in the four preceding years 1902–05. The causes of 45, or 1·1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner; in London the proportion was only 0·3 per cent. All the causes of death were duly certified in Manchester, Leeds, Bristol, Nottingham, Salford, Leicester, and in 50 other of the large towns. The proportion of uncertified deaths showed the largest excess in Birmingham, Liverpool, Bootle, Preston, Sheffield, South Shields, Gateshead, and Coventry.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·5 and 15·6 per 1000 in the two preceding weeks, rose again last week to 15·8, and exceeded by 2·9 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·0 and 14·3 in Leith and Aberdeen to 16·9 in Glasgow and 17·4 in Dundee. The 542 deaths in the eight towns showed an increase of seven upon the number in the previous week, and included 19 which were referred to measles, 19 to diarrhœa, eight to whooping-cough, five to diphtheria, five to "fever," two to scarlet fever, and not one to small-pox. In all, 58 deaths resulted from these principal infectious diseases, showing a decline of nine from the number returned in the previous week; they were equal to an annual rate of 1·7 per 1000, which was 0·5 above the mean rate during the week from the same diseases in the 76 English towns. The 19 fatal cases of measles exceeded the number in the previous week by five, and included 14 in Glasgow and five in Edinburgh. The 19 deaths attributed to diarrhœa were fewer by three than the number in the previous week; nine were returned in Glasgow, four in Edinburgh, and two both in Dundee and in Aberdeen. The eight fatal cases of whooping-cough showed a marked decline from recent weekly numbers, including, however, four in Glasgow and three in Aberdeen. Four deaths from diphtheria and three from "fever" were returned in Glasgow; of the latter two were certified as cerebro-spinal fever. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 95 in each of the two previous weeks, declined last week to 80, but exceeded by 17 the number returned in the corresponding week of last year. The causes of 24, or 4·4 per cent., of the deaths registered in the eight towns last week were not certified, the proportion of uncertified deaths in the 76 large English towns during the same week being only 1·1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 22·4, 20·2, and 18·4 per 1000 in the three preceding weeks, further declined to 16·4 in the week ending June 16th, a considerably lower rate than has prevailed in the city in any previous week of this year. During the first 11 weeks of the current quarter the death-rate in the city averaged 22·0 per 1000, against 15·2 in London and 17·5 in Edinburgh. The 119 deaths of persons belonging to Dublin registered during the week under notice showed a further decline of 15 from the numbers returned in recent weeks, and included seven which were referred to the principal infectious diseases, against seven and two in the two preceding weeks. Of these seven deaths four were referred to diarrhœa, two to whooping-cough, one to "fever," no death being referred either to small-pox, measles, scarlet fever, or diphtheria. These seven deaths from infectious diseases were equal to an annual rate of 1·0 per 1000, the rate from the same diseases last week being 1·1 in London and 1·7 in Edinburgh. The 119 deaths in Dublin included but five of infants under one year of age and 41 of persons aged upwards of 60 years; the deaths of infants were exceptionally few, while those of elderly persons showed an increase. Four inquest cases and three deaths from violence were registered, and 50, or 42 per cent., of the deaths in the city occurred in public institutions. The causes of three, or 2·5 per cent., of the 119 deaths were not certified either by a registered medical practitioner or by a coroner, the proportion of uncertified deaths last week being but 0·3 in London and 4·2 in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon D'A. Harvey has been appointed to the *President* and lent to Deptford Yard, temporary.

ROYAL ARMY MEDICAL CORPS.

Major Francis A. Saw retires on retired pay (dated June 20th, 1906).

Surgeon-Major P. H. Whiston, Irish Guards, and Captain A. E. Hamerton join the London District for duty. Major L. E. A. Salmon assumes the duties of medical officer in charge of troops at the Citadel, Plymouth, and of recruiting at Mutley Barracks.

IMPERIAL YEOMANRY.

Lancashire Hussars: Surgeon-Major D. Harrison is granted the honorary rank of Surgeon Lieutenant-Colonel (dated June 8th, 1906).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain (honorary Captain in the army) T. W. G. Kelly resigns his commission (dated June 8th, 1906).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Royal Warwickshire Regiment: Seymour Gilbert Barling to be Surgeon-Lieutenant (dated June 8th, 1906). 1st Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant G. B. Robinson to be Surgeon-Captain (dated June 8th, 1906). 3rd (Sunderland) Volunteer Battalion the Durham Light Infantry: Surgeon-Captain R. E. Beveridge to be Surgeon-Major (dated June 8th, 1906). 1st Sutherland (the Sutherland Highland) Volunteer Rifle Corps: Supernumerary Surgeon-Captain (honorary Lieutenant in the army, Surgeon-Captain, Army Medical Reserve of Officers) J. K. Tomory resigns his commission (dated June 8th, 1906). 20th Middlesex (Artists') Volunteer Rifle Corps: Surgeon-Captain F. S. Hogg resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated May 28th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Maidstone Companies: John Aldington Gibb to be Lieutenant (dated June 2nd, 1906). *Scottish Command:* Glasgow Companies: James King Patrick to be Lieutenant (dated June 8th, 1906).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain John K. Tomory, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated June 8th, 1906).

THE VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force, who have been duly recommended for the same under the terms of the Royal Warrant, dated July 25th, 1892:—*Western Command: Artillery:* 1st Cheshire Royal Garrison Artillery (Volunteers): Surgeon-Major Arthur Montfort Archer. 3rd Lancashire Royal Garrison Artillery (Volunteers): Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel Michael John Fox. *Scottish Command: Rifle:* 2nd Volunteer Battalion, The Royal Scots Fusiliers: Honorary Assistant Surgeon David Sloan. 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant-Colonel Thomas Philip.

THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

The King has sanctioned the following appointments to the Order of the Hospital of St. John of Jerusalem in England:—To be Knights of Grace: Surgeon-Major John Arnallt Jones, 2nd Volunteer Battalion, Welsh Regiment (from Honorary Associate), Deputy Inspector-General Theodore Julian Preston, R.N., and Major Thomas McCulloch, R.A.M.C.

DEATHS IN THE SERVICES.

Surgeon-General Theobold Ringer, I.M.S. (retired), at his residence, 20, Lansdown-terrace, Cheltenham, on June 14th, in his eighty-first year. The deceased was born at Clifton (Bristol) and received his medical education at Guy's Hospital. He graduated M.D. of St. Andrews and when he was 30 years of age entered the Indian Medical Service as assistant surgeon, being attached to the 7th Bengal Cavalry. He served during the Mutiny and was present at the sieges of Cawnpore and Delhi. Since being knocked down by a motor-car at Tewkesbury four years ago he has always been in feeble health and had seldom appeared in public, though he continued to take a keen interest in the affairs of the town, of which he was one of the most highly respected inhabitants. The deceased was for many years a member of the Bristol and Gloucestershire Archæological Society and was a distinguished Freemason, having held the office of Deputy Grand Sword Bearer in the Grand Lodge of England and the same office in the Grand Lodge of Mark Master Masons. He is survived by his wife and one daughter.

THE ALEXANDER MEMORIAL PRIZE.

The prize of £50 and the gold medal of the Alexander Memorial Fund for 1905 has been awarded to Major F. Smith, D.S.O., R.A.M.C., for his essay on Syphilis in the Army, its Causes, Treatment, and Prevention. The essay sent in by Major H. C. French, R.A.M.C., was considered by the assessors to be worthy of commendation.

The subject for the next competition is Functional and Organic Diseases of the Heart in the Army, their Prevalence and Influence on Efficiency, their Causes, Suggestions for Preventive Measures, and their Treatment. The essay should embody the results of personal observation and research. Essays must reach the Secretary of the 'Prizes Committee, Royal Army Medical College, on or before Dec. 31st, 1908. They must have a brief motto and be accompanied by a sealed envelope similarly superscribed containing the name and address of the author. No essays should exceed about 20,000 words, exclusive of tables, which may be added in the form of appendices. The competition is limited to executive officers of the Royal Army Medical Corps on full pay. Professors and assistant professors at the Royal Army Medical College are not eligible while so employed.

ARMY SCHEMES AND SCHOOL CADETS.

What with the various schemes already in the field for Imperial defence and to that end for the maintenance and support of the army some plan can surely be arrived at which will commend itself to national support as likely to prove suitable to the needs of the situation. Whether Lord Roberts's plan is calculated to fulfil all these requirements or not there cannot, we think, be any doubt that some widespread instruction in the rudiments of military drill and in practice with the rifle would go far in doing so and would confer at the same time many physical advantages on those taking part in such duties—to say nothing of the influence on character in the increase of self-reliance, determination, and respect for authority. We are consequently glad to see that the movement is making such progress in our public schools. Meanwhile, and in another direction, the *Spectator* Experimental Company at Hounslow under Colonel Pollock is doing excellent work in showing how much can be accomplished by a well-directed course of military training.

A PROFESSOR OF MILITARY MEDICAL HISTORY AT THE MEDICAL STAFF COLLEGE.

Surgeon-General George Evatt, C.B., A.M.S., retired, sends us a plea for the appointment of a professor of military medical history at the Royal Army Medical College. He points out that every great soldier has taught the principle that military history is the greatest source of military knowledge and our correspondent would apply the same theory to the medical side of the army. The cost of such a professorship would probably be about £800 a year. In addition to the giving of lectures the professor would no doubt find time to write a valuable work on the medical history of past campaigns, while his studies would include foreign campaigns and methods of foreign organisation. All this would, the writer thinks, immensely add to the efficiency of our Army Medical Service and the practical gain would be more than worth the cost.

ARMY MEDICAL REFORM.

"One Who Knows," writing from Bucks to the *Daily Express* on June 16th, says: "The Premier's refusal to appoint a medical officer to accompany the Army Service Corps officer on his tour of inspection among the American tinned-meats packing houses is a specimen of the neglect of the Government to utilise, for the prevention of diseases, the medical skill the country possesses in the Royal Army Medical Corps and in the Volunteer medical services. Such neglect, as we know to our cost in the past, has been very expensive; the number of sick from preventable diseases has always greatly exceeded those wounded."

THE MAINTENANCE OF DISCHARGED SAILORS AND SOLDIERS.

A circular has been issued from the Local Government Board to boards of guardians giving particulars of the conditions under which pensions are granted to sailors and soldiers. While the Lords of the Admiralty state that they are unable to accept responsibility for the permanent maintenance of men who are invalided from the Navy the Army Council intimates that should there be any discharged soldiers in workhouses who are without pensions, or with small pensions, and who can be shown to be suffering from disabilities directly due to military service, their cases will always receive careful investigation on being brought to the notice of the Secretary, Royal Hospital, Chelsea, S.W.

SICK-BERTH AUXILIARY RESERVE.

A party of seven men of the Northamptonshire Branch of the St. John Ambulance Association arrived at the Royal Naval Hospital, Stonehouse, Plymouth, on June 9th, for a week's training in the duties of the sick-berth staff. The detachment should have numbered ten men but three members were detained at home through illness. Ten representatives of the Manchester branch of the same association arrived at the hospital on June 12th for training lasting a similar period.

THE "HOSPITAL ASSISTANT."

We have to acknowledge the receipt of some copies of a new Indian monthly medical publication, the first number of which made its appearance in January of the present year. The *Hospital Assistant*, as the new journal is called, is published at Kolhapur city, Bombay Presidency, and owes its existence to the enterprise of its editor and proprietor, hospital assistant Raghunath V. Bapat. The hospital assistants in India form a very numerous, useful, and widely distributed class of medical subordinates who are mainly employed in the Indian Government service. The aim and object of the journal seem to be twofold—namely, to establish a wider community of feeling among the hospital assistant class by representing and advocating their interests and views and, in the second place, by disseminating such medical knowledge and information as may be likely to prove useful to them in their professional work. Seing that these hospital assistants are, as we have said, widely distributed throughout India and that numbers of them have to serve at small native stations and villages the latter consideration has, or may hereafter have, an important bearing. The hospital assistant class is not in a position to subscribe to the more expensive medical and scientific journals and the price of the present publication consequently had to be as low as possible in order to be kept within their means. We recognise that any attempt to start a journal of this kind in India must be attended with many difficulties and shortcomings which later may, however, be fairly expected to disappear or to be overcome.

As we go to press we learn with deep regret that Lieutenant Forbes Manson Grantt Tulloch, R.A.M.C., succumbed on Wednesday at the Queen Alexandra Military Hospital, Millbank, to sleeping sickness contracted while investigating that disease in Uganda for the Colonial Office.

Correspondence.

"Audi alteram partem."

THE CAUSATION OF PLAGUE.

To the Editors of THE LANCET.

SIRS,—In *Nature* of April 16th there is a quotation from Dr. Theodore Thomson's report to the Local Government Board to this effect, "The part played by the rat in transmission of plague to man, although real, falls far short of the importance which has generally been attributed to it." As there is not a full report it would be useless for me to say much about Dr. Thomson's report, but this much is certain, medical experts on plague in plague countries are unanimous in blaming the rat and its attendant flea as the only cause of plague transmission.

I have just come from a plague distracted country and whilst there visited probably one of the most interesting scientific research laboratories in existence. I refer to the Plague Institute at Old Government House, Bombay. So far my visit there has been the most instructive and novel experience that has befallen me since travelling in the East. It was made doubly pleasurable by the kind and courteous treatment received at the hands of the medical authorities there who spared themselves not in showing everything connected with their epoch-making discoveries. A full report will be out by-and-by and the medical profession will find that plague depends on flea and rat. The experiments going on there now prove this conclusively and clinical experience backs up the laboratory results of the scientists. Until I paid a visit there I quite thought that Sir Patrick Manson's idea that plague might be got from, say, introduction into the system through walking with bare feet was likely; but the authorities at Bombay say "No," and they give as a reason that if this were the case the glands in the groin would be first affected. Experience, however, teaches that in some places where people walked about barefooted the glands in the arm were first affected, whereas in others, where they walked about shod, the groins were affected first.

Again, into a cage two rats were put; one was surrounded by fine gauze, flea-proof, the other rambled about freely in the cage. Infected fleas from plague rats were put into the cage. The rat left free sickened and died in a few days, the protected rat lived on and was quite well. Clinically, it was found that in certain cases where a person had been known to work through the day and leave about sunset no harm came but when the same person stayed on late into the night or slept on the premises he was known to take plague. This was explained because the flea was a nocturnal biter of man. The medical experts at this institute are therefore firm believers in the rat theory of plague. I was there at 1 P.M. when the carts with the suspected dead rats were brought in. At one table stood a series of dissectors and at another sat a body of microscopists. On asking if there was no danger of the dissectors getting the poison I was told they were all injected with the serum and this was a condition of service with everyone connected with the institution. There they stood cutting up the rats and by the appearance of the glands these macroscopists could tell better than the microscopists if the rat had plague or not. There was a friendly competition between the two and at the time of my visit the dissectors had so far the best of it.

In the flea experimenting room I noticed some few guinea-pigs running about loose. These were allowed purposely to do so in case any fleas escaped in order that the fur of the guinea pig would attract the flea instead of the arms or legs of the attendants. The serum prepared here supplies the world and its benefits are only beginning to be realised. It is somewhat disheartening to an institution ready to turn out any amount of serum to find opposition to its operation even in high quarters. In a pamphlet published it was startling to see that in a village with a population of 2000, of every 100 not injected with anti-plague serum 65 took plague and 40 died, whilst out of every 100 inoculated 20 took plague and seven died. Now all this serum is made based on the theory of the rat and rat-flea being the sole cause of plague. The medical experts at Old Government House do not look on the plague as strongly infectious or contagious, their contention being that it requires to be injected into the system *and the creature who does this is the flea* who gets the poison from its host, the rat.

I would take up too much space in your valuable columns were I to enumerate to you the whole ingenious process of preparing this plague antitoxin from beginning to end but should any of your readers travel towards Bombay they will miss a great treat should they not have the privilege of seeing how things are manufactured at this life saving laboratory. Their opinions and results are the summing-up of a vast experience as well as a large number of painstaking experiments. That this is so one has but to look at the Bombay newspapers, where, at the time we were there, the average daily death-rate from plague alone was 150 persons. To realise that no theory is advanced here without numerous painstaking experiments one has only to see their nurseries of healthy guinea pigs; their large rooms filled with boxes of injected guinea-pigs; the room where fleas innumerable are nursed for experimental purposes; and adjoining thereunto the big shed where upon little boards rats are split open and labeled; near by busy microscopists—whose duty it is to find, if possible, the real and tiny cause of all the trouble—superintending, together with enthusiastic scientific medical experts—to see all this will convince the most sceptical observer that the part played by the rat in the transmission of plague to man is real and does *not* fall short of the importance which has been attributed to it. At least, such was the idea impressed upon my mind from a visit paid to the laboratory at Old Government House, Bombay.

I am, Sirs, yours faithfully,

THOMAS PICKTHORN THOMSON, M.B., C.M. Aberd.

C S *Duplex*, Suez, Egypt, June 1st, 1906

THE CHARITABLE POSITION OF *HOSPITALS.*

To the Editors of THE LANCET.

SIRS,—Most thoughtful minds in our profession will have pondered long and anxiously over the problem you present to your readers in the leading article in a recent number of THE LANCET.[1] They will agree with you that large numbers of people apply for medical and surgical treatment in hospitals who are able to remunerate the general practitioner adequately for such services as are needed in most of the minor cases which apply. It is proper to bear in mind that these institutions were in their origin founded as charities pure and simple, and endowed and financed to aid the sick and destitute poor unprovided for by parochial agencies. For this purpose the members of our profession most willingly joined in giving the best of their skill and service, free and without stint, both as to quality and time. The most talented and distinguished, our greatest physicians and surgeons and most eminent specialists, eagerly embraced the opportunity and vied with each other in order that they might place all that they knew at the service of the charity; and so noteworthy were the results of their work and so marvellous did their cures appear to all onlookers that a rage set in upon the public mind for all sick people, whether rich or poor, to share alike in the benefits thus provided without any professional fee or reward being required. At the same time, the public highly appreciating the good thus resulting, resolved to make these hospitals and everything connected with them absolutely healthful and sanitary; and all who have been concerned in the erection or renovation of hospitals will recognise with gratitude the great public spirit with which they have been financed in order that they may be brought as near to perfection as possible. This, however, only adds another nail to the coffin of professional income, for when those who *can* pay come to realise how much better off those who *cannot* pay are than themselves, and also that *in addition they have to pay* considerable fees for what the others get for nothing, it is natural to expect if their sense of conscience is somewhat dull and deadened that it would be likely for them to choose the course which seemed to them good and to excuse themselves on the plea of poverty which they were not morally entitled to raise.

That this has been done to an enormous extent is perfectly clear. In one institution I have heard that the authorities, suspecting considerable abuse, decided to make an independent inquiry into the circumstances of each applicant for relief, and as a consequence the following year the numbers diminished by over 2000 persons. We have in the medical profession some 30,000 or more practitioners who at great expense either to themselves or their friends or relatives have qualified themselves to administer to the professional needs of the British people; as a body they are not rich but rather poor men who seek by attention to their patients and skill and care to earn a moderate living and to pass their life in the useful practice of a charitable and generous profession. Many of our younger men depend *almost for their existence* at first upon the opportunities presented by this kind of practice for their being brought into notice in the neighbourhoods where they settle. This is a strong reason for the restriction of the abuse of charity. Can it be thinkable that the public sense of honour and generous feeling should be so debased as really to desire to take advantage of the self-sacrificing traits in the character and life of our profession by either condoning the abuses which abound or otherwise encouraging them? I trow not. But the subject is extremely intricate, has grown out of long-suffered abuses, and possesses in itself conditions which appear *to need on all sides* reconsideration and adjustment. The mixing-up of charity with pay is eminently undesirable and in this consists the foundation error. Every medical man delights to help forward the charity as a charity and the best in the profession are eager for the work, but money payment, combined with it under the cloak of charity, is calculated to inflict a monstrous injustice on the rank and file of the profession. There is a danger in the present day worthy of consideration. We have seen it exemplified in the teaching profession. The schoolmaster of the past has become municipalised and so may the medical man of the future be unless in time he fights strongly and wisely and with the whole strength of the combined profession for the preservation of his rights and liberty. Keep these hospitals for what they were originally intended and let payment make its own terms independently and unconnected with the charity. A combination for mutual aid might then be made on self-supporting principles which could be organised beneficially to professional interests for all who were willing to give such service. Such arrangements would leave the hospitals free for the treatment of all the more serious cases, operative or otherwise, and for which at the present time the extension of charity is still greatly needed. The hospitals would be relieved of a heavy expenditure and the prospects of the younger practitioners would be brightened. The abuse in regard to out patients is one comparatively easy to be restrained. If every patient admitted were made the subject of investigation as to his earnings and financial position the swarm of applicants would soon diminish. It ought in every case to be a real investigation. Ordinary infirmary letters are in nine cases out of ten untrustworthy; those who give them know little or nothing about the applicant and accept his statements as to fact without attempt to verify. It would be useless to employ an infirmary official who has to collect the funds for the charity and his inquiries might be expected to be of a very perfunctory character. He would feel that close inquiry would give great offence, cause the *loss of many* subscriptions, and damage the interests of the hospital. It seems as though an inquiry altogether independent of the hospital was needed to check abuses which undoubtedly prevail, even in the best managed hospital work. Is it altogether unreasonable to hope that in a union of all the hospitals of the United Kingdom may be found a solution of many difficulties in connexion with their management, and, amongst others, the correction of their abuses. A great difficulty has arisen in many hospitals in this connexion, arising from the union of charity with part pay, from the very handsome manner in which these *institutions are subsidised* by the subscriptions of the working classes, sometimes amounting even to a fourth part of the working expenses of the charity. These good folks, when in work, are generally well paid and well able to remunerate their local practitioner, but very many consider the few shillings they subscribe annually entitle them to claim the gratuitous service of the institution The outside medical men naturally look upon it as a hardship that they should be deprived of a large source of their living by the gratuitous service of their brethren, were the conditions grave and serious, necessitating operation and treatment in hospital, the case would be different and they would not object to what would generally in the circumstances be a very real charity.

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[1] THE LANCET, March 17th, 1906, p 771.

But lately a new idea has been started—viz., that of catering for the rich and moneyed classes, and by this means working up a profitable business—in other words, appropriating the funds devoted to charity for the satisfaction of the needs of the well-to-do and so crowding out the poor for whom they were originally provided. This opens a very important and serious consideration. These hospitals are beautifully equipped, far in advance of anything to be found in the ordinary medical or surgical homes that are established for the reception of the wealthier classes. Moreover, the acknowledged skill and capacity found there freely given is exceptionally costly to purchase elsewhere, so that persons in more modest circumstances who are quite able to pay moderate sums for what they require and who desire to have the advantage of the greatest skill they can obtain in the conduct of operative measures are naturally disposed to take advantage of the open hospital door. To a certain extent nursing homes are open to this class of cases but as a rule they miss the conveniences, the perfect sanitary arrangements, the resident medical officers, and the efficient control of every department of service that is to be found in the larger and better equipped hospitals. They can have their own medical man and the consultant they select—of course a great point with many. In London and other large towns I daresay there are many suitable places of this kind, where members of the wealthier classes can be received and adequately dealt with, but for the lower grade the price is prohibitive. These nursing homes appear better suited for country places with a sparse population than for large towns. Why cannot the wealthy and all who are rich in this world's goods join together to produce for themselves and their neighbours and kinsfolk what they do for the poorest of the poor, start one as a pay hospital, sufficient in size for its probable requirements, with an adequate scale of resident staff, nursing efficiency, comfort, health, and perfect sanitation, and place it in every large town or great centre? It would be quite as legitimate for the operations of a company as the financing of hotels or hydropathic establishments, and with suitable tariffs arranged for different classes of occupants it would probably prove in the end a commercial success. A generous magnate, like Mr. Carnegie, desirous to initiate good works with his surplus capital, could hardly find a better way of starting a great and most beneficent movement than by founding on thoroughly good lines a pay hospital in some large and populous central place, preserving to every patient the right to be looked after by his own medical man and his own consultant at his own expense if he so desires.

This type of hospital, once well started, would command extensive imitation and similar institutions would gradually grow up around in all our large towns and would relieve the other class of hospitals of numerous costly cases that would then have no right or occasion to go there. It might at first seem to be a hardship for those carrying on the nursing homes that a movement of this kind should be created which would very probably render their homes unremunerative; but many are now carried on under difficulties and a great change of this kind would open up many opportunities for employment for them, with less of pecuniary anxiety and responsibility. I would say in conclusion that the requirements of the surgery of the present day have been so entirely modified and enlarged by the great discoveries and improvements in recent times that what has been found to be essential and necessary to promote the recovery and well-doing of the poor man is equally as necessary as for the rich. Rich men have provided in the past most liberally and handsomely for the wants of the poor; will they not also now be persuaded to take this matter in hand and provide also for themselves, for their own kith and kin, and for their less wealthy brethren, a refuge for the future in their times of greatest agony and distress! I am, Sirs, yours faithfully,

June 15th, 1906.

SAMUEL KNAGGS.

FOOD INSPECTION.

To the Editors of THE LANCET.

SIRS,—Just now, when public attention is being directed to the question of the purity of food-supplies, it will probably be of interest to your readers to know something of what is being done with regard to the inspection of food sold in this country. Some seven years ago the report of the Royal Commission on Tuberculosis made several suggestions with a view to securing the purity of the food-supply and recommended that in future no person be permitted to act as a meat inspector until he has passed a qualifying examination. These suggestions and recommendations were embodied in a circular issued by the Local Government Board to the local authorities throughout the country. Following on this report the Royal Sanitary Institute, in order to facilitate the carrying out of these suggestions, established special courses of instruction and examinations directed to the qualification of public officers whose particular duty was the inspection of meat and food. The examinations for inspectors of meat and other foods are held in the principal centres of England and have by special request been extended to colonies where other examinations are held by the institute.

The syllabus for this examination was submitted to, and in general terms approved by, the Local Government Board of England, the Local Government Board of Scotland, and the Local Government Board of Ireland. The examination is made in every way as practical as possible and the candidates are examined on actual specimens of meat, fish, canned, and preserved foods. During the period that this examination has been held 280 candidates have come up for examination and 193 certificates have been granted. Many of those who have obtained certificates are now holding appointments in the principal towns and ports of the country. The President of the Local Government Board, in reply to a question in the House last week, called attention to the importance of efficient inspection of food-supplies and it is in order to make such inspection possible that the institute are urging the necessity of local authorities having for this purpose the assistance of competent and qualified officers.

I am, Sirs, yours faithfully,

J. LANE NOTTER,
Chairman of Council.

Royal Sanitary Institute, Margaret street, London, W.,
June 19th, 1906.

THE FIRST GARDEN CITY.

To the Editors of THE LANCET.

SIRS,—The Garden City Company has been now in existence over two years and I think all those interested in the undertaking are pleased, and not a few of them surprised, at the progress which has been made towards the realisation of its object. That object was, as most of your readers are probably aware, to procure the building of an industrial and residential town on hygienic principles in accordance with the ideas promulgated by Mr. Ebenezer Howard in his book, "Garden Cities of To-morrow."

The company has acquired a site of over 3800 acres at Letchworth, near Hitchin. The Garden City has its own station provided by the Great Northern Railway, factories are at work, gasworks and waterworks are in operation, about 150 acres of building sites have been let, over 400 houses are built or in course of building, and we have already a population of over 1600. This by itself is, I submit, not a bad record for two years' work, but much has been accomplished in addition which I must not trespass on your space to describe. Our progress would, however, have been much more rapid if we had had more capital at our command. In some instances accommodation might profitably have been provided both for manufacturers and their workpeople had the capital been available. There are, moreover, at least 300 men at the present moment working on the estate who desire to live on it but for whom no accommodation can be found and the time has arrived when we have decided to come to the public for further financial support to enable us to push on with our enterprise and to clear the estate from the mortgages which still affect it. The capital of the company is £300,000, upon which the dividend is limited to 5 per cent. cumulative, all profit in excess going to the benefit of the town and its inhabitants. Of this about £134,000 have been allotted and the balance is being offered for public subscription.

Now, Sirs, there are multitudes of people of means in this country who are alarmed at the symptoms of physical degeneration exhibited by our town populations and who look to better housing and the redistribution of the people upon the land for remedy, and I am quite sure that they would not knowingly allow an enterprise such as ours to be crippled for want of financial support, but claims are so many that people are not likely to invest their money in an undertaking offering only a moderate return unless they know that it is urgently needed and we are therefore obliged to make a direct appeal In all human probability the Garden City Company will soon be a dividend-paying concern and I append a letter received from Mr Peat—a member of the well known firm of accountants, Messrs. W. B. Peat and Co, who act as auditors for the company—in answer to an inquiry from me as to how far, in his opinion, we were conducting this philanthropic enterprise on business lines. The success of the company hitherto has been largely due to the kind and generous support which the press has extended to the enterprise and I hope I am not presuming too far upon your kindness in asking you to publish this appeal for further capital

Any further information with regard to the aims and progress of the company may be obtained from Mr. Thomas Adams, the secretary of the First Garden City, Limited, 326A, High Holborn, W.C., who will also forward prospectuses to all applicants. Yours truly,

RALPH NEVILLE.

[COPY]

11, Ironmonger-lane, E.C, 1906.

DEAR SIR,—*In reply to your letter* I have no hesitation whatever in expressing my opinion that the First Garden City, Limited, is managed on strictly business and economical lines Its progress has been remarkable. Ground rents have been created, bringing in a substantial annual income Gasworks and waterworks have been constructed and are owned by your company, and the nucleus of a considerable town is already in existence. I therefore conclude that the value of the estate by the developments I refer to has been substantially improved. The object the directors have had in view has been to demonstrate that a garden city can be run on lines which will yield a reasonable but modest return on the funds invested, thus combining philanthropic and useful effort with a fair prospect of profit. I consider that the scheme is on sound lines although no dividend has yet been forthcoming, nor could one have been reasonably expected in the present stage of the company's operations.

Yours faithfully,

(Signed) W. B PEAT.

To the Chairman, First Garden City, Limited

⁂ In our account of a visit paid to the Letchworth Garden City, which appeared in our columns last week, we gave substantially the same figures as those given by Sir Ralph Neville. We said nothing about the impending appeal to the public for subscriptions, but apart from dividends there is much in the scheme which the learned judge advocates that must commend it to the medical profession.—ED. L.

THE SUTURE OF INCISIONS OF THE ABDOMINAL WALL IN LAYERS WITHOUT BURIED SUTURES.

To the Editors of THE LANCET.

SIRS,—I gather from the letter of Dr. R. S Rogers, published in your last issue, that the double-loop suture for abdominal incisions has suggested itself to several other minds. I should not be surprised to hear of still other surgeons who have made use of this method. The fact that it has been an original idea in certainly three independent mind centres seems to show that it may be useful and was worth describing and illustrating.

I am, Sirs, yours faithfully,

J. B. PIKE.

Loughborough, June 18th, 1906

GASTRO-ENTEROSTOMY.

To the Editors of THE LANCET.

SIRS,—Mr. Moynihan's letter of June 9th leaves me no option but to ask for a little more of your valuable space for what will in any case be my last contribution to this now distasteful subject. Mr. Moynihan has a good deal to say and more to suggest about my inexact date. It would have been simpler to state what the inaccuracy was so as to avoid the natural but mistaken inference in the minds of your readers. Mr. Littlewood's first operation was not performed at a *later* date than the one which I gave, as might be supposed from the manner of Mr Moynihan's reference, but was two days earlier—that is to say, on the 22nd, and not the 24th, of May—so that the interval between Mr. Littlewood's first operation and Mr. Moynihan's was ten days and not eight.

While upon the subject of inaccuracies of this character it may be interesting to note that Mr Moynihan himself is not impeccable Robson and Moynihan's book on "Diseases of the Stomach" was published early in August, 1901. In it Mr. Moynihan states that he has practised excision of the mucous membrane in the operation of gastro enterostomy for a period of 18 months. He now states that his first operation was performed on June 1st, 1900. One of his former letters seems to propose that if a statement goes long enough unchallenged its accuracy becomes thereby established. The establishment of this statement would, of course, put him well ahead of Mr. Littlewood in point of time, making, as it does, a difference of something like four months. Here it would seem as if Mr Moynihan must admit either carelessness or a slip of memory. Possibly vulnerable opponents are not all on one side At any rate, it is not easy to understand how he can have come to regard certain ideas as "original in his own mind," except on the supposition that in the lapse of time the clearness of his recollection has become blurred

Mr. Moynihan has stated a fact with regard to the dresser's report of Mr. Littlewood's first operation of which I was not aware. Even if the report were accurate as it stands it could not weaken Mr. Littlewood's position as the first to advocate and to practise excision of the mucous membrane. But I have prevailed upon Mr. Littlewood to make a statement upon this matter which I quote.—

> I performed the operation exactly as I described it in my paper read before the Leeds and West Riding Medico-Chirurgical Society on Oct. 19th, 1900, and published in THE LANCET on June 29th, 1901.

Mr. Littlewood's communication was made within such a short time of his having devised the operation, practised it upon the cadaver, and performed it upon a patient that it can hardly be suggested that his memory was at fault. But perhaps if a dresser's inaccurate statement goes long enough uncorrected it is in the position of an unchallenged statement.

I come again to the clamps. Here especially does Mr. Moynihan seem to try to obscure the issue in a cloud of words. In his letter of May 19th he refers to Kocher, Doyen, and Sir Thomas Smith, and he quotes from Mr. W. A. Lane the quotation including the following, "have *curved*, flat blades," and "whether it is for closing a wound or attaching the part to the abdominal wall," but not a word about gastro enterostomy. The real point is this. Did Dr. Doyen, or anyone before Mr. Littlewood, make this special use of clamps in gastro-enterostomy? It is of no moment who invented the clamps, nor whether they were originally designed for hysterectomy, enterectomy, or any other purpose whatever. As a matter of fact, I believe the clamps Mr. Littlewood first used were Doyen's hysterectomy clamps. Probably Doyen's book is not easily accessible to a large majority of your readers and there is no doubt that the manner of Mr. Moynihan's reference to it leaves the impression that Mr. Littlewood's use of the clamps is a mere plagiarism. Mr. Moynihan does indeed make one definite statement about Doyen's book. He says that "Doyen used, and depicted the use of, the clamps in the operation of gastro-enterostomy to fulfil the special objects Mr. Ward enumerated" I have looked carefully through the book for this depiction and I fail to find any drawing or diagram illustrating the use of clamps in gastro enterostomy at all, except here and there ordinary pressure forceps holding sutures There is a drawing showing curved clamps used in an operation which is not gastro-enterostomy and the method of use has not the remotest resemblance to the parallel apposition of the straight clamps as in Mr Littlewood's method, which has the distinguishing feature of entire novelty and originality and which, in my opinion, is the most important and valuable feature of the whole operation.

Mr. Moynihan's use of the word paltry is perhaps unfortunate in the circumstances. As I am not personally concerned with any claim for priority I need not express any views but we may reasonably infer that Mr Littlewood agrees with Mr. Moynihan, although he goes a very different way about conveying his opinion. I have looked again at my letter in search of the "fantastic embroidery of insinuation" but I arrive at the conclusion that, like the high-flown phraseology with which Mr. Moynihan seeks to becloud the plain issue, it is entirely of his own manufacture. In addition to sundry digressions upon my ignorance, my intelligence, and my manners, Mr. Moynihan is good enough to favour me with instructions as to the "bounds of courteous discussion." He apparently has a standard of his own. Perhaps he is not singular in this respect. At any rate, I am content to suffer by the comparison.

We are entitled to assume that the operation which we see Mr. Moynihan performing at the present time is the one to which, without any disclaimer, he has allowed his name to be attached. This is the operation which in Leeds we continue to regard as the Littlewood operation.

I am, Sirs, yours faithfully,
Leeds, June 18th, 1906. EDWARD WARD.

THE STYLE OF SPECIALIST.

To the Editors of THE LANCET.

SIRS,—I am an old general practitioner whose desire is to free himself from the arduous duties of miscellaneous practice. Is there any legal objection to my giving this intimation to my patients by styling myself on a door-plate "Specialist for diseases of the lungs and heart"? You may say that it is unusual. But times and methods and formulas are changing and medical men may, I would suggest, not immodestly change with them. I have lived long enough to have seen the time when specialists of all sorts were despised and suspected; now they are respected and trusted. This to show that tolerance of the unusual is induced by time and familiarity. I am, Sirs, yours faithfully,
June 18th, 1906. A. Z.

⁂ In spite of the logic, the unanswerable logic, of our correspondent's note we do not approve of his suggested innovation. "What Constitutes a Specialist?" would make an excellent subject for a prize essay upon medical ethics.—ED. L.

CARBOHYDRATE METABOLISM AND DIABETES.

To the Editors of THE LANCET.

SIRS,—I much regret that I should unintentionally have misrepresented Dr. Pavy's views as to the process of absorption of carbohydrate, but I venture to think that the statement made in the review was the natural interpretation of the language used in the book. Thus, with reference to the absorption of sugar from the intestine by the epithelial cells of the villi, Dr. Pavy writes:—

> The effect of modern research, however, is to show that it is by the instrumentality of cell action instead of by osmosis that the products of digestion pass into the system. ...... Absorption by cell action may be said to mean bioplasmic incorporation. The absorbed material passes into, and becomes a component of, the living matter. In other words, it is assimilated or made to form part of bioplasm in process of growth (p. 52).

The natural meaning of the above sentences appears to be that the sugar absorbed from the intestine is converted into the bioplasm of the epithelial cells; and as bioplasm is presumably living proteid it would follow that the sugar is converted temporarily into proteid. Dr. Pavy says in his letter[1] that the sugar is "assimilated" by the epithelial cells "into fat." This is surely an unusual employment of the word "assimilate." It is at least very doubtful whether the free fat (i.e., that recognisable by means of osmic acid) in a living cell can be spoken of either as forming part of the bioplasm or as actually assimilated.

I am, Sirs, yours faithfully,
June 16th, 1906. THE REVIEWER.

ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.—At the annual meeting of the above association held on June 12th, the following officers and members of council were elected:—President: Mr. Claude St. Aubyn-Farrer. Secretary: Dr. E. N. Féré, 12, Northampton-square, London, E.C. Treasurer: Mr. Sydney Stephenson. Council: Mr. H. R. Heather Bigg, Mr. F. E. Fenton, Dr. H. W. Fitzgerald Powell, Mr. J. G. Fitzgerald, Dr. A. J. Harries, Dr. C. O. Hawthorne, Dr. G. Hardyman, Mr. F. B. Lewis, Dr. Sidley Lightfoot, Dr. Alexander Morison, Mr. P. H. Parsons, Mr. Noble Smith, and Dr. David Walsh.

A DEFENCE OF THE CHICAGO STOCKYARDS.

(BY OUR SPECIAL SANITARY COMMISSIONER.)

THE agitation in regard to the Chicago stockyards is only beginning. Many an abortive effort will be made before any really satisfactory and permanent settlement can be obtained. Nor would this put an end to the questions raised. The evils exist in minor degree elsewhere, and in England especially an enormous work has to be accomplished before we can view the meat on our tables with feelings of absolute security. The private slaughter-house is a perpetual public danger. Chicago is only an exaggerated, monstrous illustration of what an amalgamation of private slaughter-houses may bring forth. Fortunately in Europe, and even in Great Britain, there are laws which would have prevented the development of such a wholesale abomination, but in detail and on a retail scale we are not exempt in this country from similar evils. That is why, in these columns and from time to time, efforts have been made to arouse public opinion. First it was sought to show how much better such matters are managed abroad, notably at Berlin and at Brussels, then quite recently at Lisbon. In each case the obvious moral that arose from the description given was the necessity of abolishing private slaughter-houses and establishing in their stead State or municipal slaughter-houses. But it is no easy matter to know how to proceed so as to cause the public to take action. The *Outlook* of June 9th says:—

> Almost every detail that has come out in the last week was made public a year and a half ago by THE LANCET, whose commission to Chicago slaughter-houses reveals details as terrible and convincing as Mr. Sinclair's, especially on the prevalence of tuberculosis and contact of meat with the germs.

There is not the slightest doubt that if the press in Great Britain had supported THE LANCET in respect of the Chicago abominations as it supported THE LANCET in times gone by in regard to the adulteration of food in this country, in regard to the spread of disease through laundries, and in regard to the contamination of wearing apparel brought about through the sweating system, the agitation that is now fairly started would have begun more than a year ago and the benefits to be derived therefrom would have been realised a year sooner. Perhaps it will be said that our criticisms were too moderate to create a sensation, though others certainly inferred that they were too violent to be credited. Among the comparatively few papers that did take the matter up is *Collier's Weekly*. This very popular and widely circulated American magazine especially appointed Major L. L. Seaman, M.D., LL.B., to proceed to Chicago and to make an *impartial* investigation into the methods of killing and canning at the stockyards. The results were published in the issue of *Collier's Weekly* of April 22nd, 1905—that is, three months after the publication of our reports—and were accompanied by the following editorial criticism:—

> JOURNALISM IS FRENZIED in at least as high a proportion as finance Two temptations constantly face a newspaper. Any subject almost can be so treated as to please a certain class of advertisers and it can be so treated as to please a public that wants its article served hot. Take the Beef Trust as an example. Some of our advertising managers think we ought to be much more kindly towards it than we are. Certainly such kindness would increase our income. A large public, on the other hand, would like to have us throw bricks and scream. Mr. Sinclair's article published alone would have created much more of a sensation than it will produce as mitigated by the report of Major Seaman. The expert of THE LANCET is almost as extreme as Mr. Sinclair, so that there was at least a fair excuse for taking advantage of the opportunity to explode a bomb. Having some doubt, however, about the real facts, we induced Major Seaman to make the trip to Chicago. This incident will serve as an example of the policy mapped out for the conduct of this paper. We shall be guided no more by the hundreds of thousands of readers who love virulence towards great corporations than we shall be by the preferences of these corporations. This editorial is really in reply to letters too numerous for individual answers, some of which accuse us of venality whenever we use moderation towards a railroad or a trust, while the others describe as sensational anything which gives a chill to vested interests.

This is certainly a suggestive paragraph. Undoubtedly the Beef Trust is a great advertiser. The owners of the insanitary laundries and sweating dens which we denounced with so much success many years ago were not advertisers. Indeed, in regard to the former our denunciations led to the formation of a considerable number of so-called model steam and sanitary laundry companies which became extensive advertisers. Had the editor of *Collier's Weekly* been better acquainted with The Lancet he would have known that it does not strive to "serve its articles hot," that it has constantly to refuse advertisements as being opposed to the principles which it advocates, and that it exercises moderation in making denunciations that may injure individual interests. This moderation was shown even in regard to Chicago and the errors of the reports on the stockyards were errors on the side of moderation. Indeed, we evidently did not at the time insist sufficiently on the actual contamination of the food, especially the canned food.

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[1] THE LANCET, June 16th, 1906, p. 1715.

On the other hand, *Collier's Weekly* was particularly unfortunate in selecting to make a counter investigation a gentleman who evidently was quite ignorant of the technique of the abattoir question. This ignorance is so fully displayed by his own words in his own report that at the time of its publication it did not seem worth while answering. The impression conveyed by Major Seaman's report that he cannot have known anything about the technicalities of the subject was subsequently confirmed in the columns of *Collier's Weekly* itself. In the issue of March 24th, 1906, there is a letter from Mr. Upton Sinclair describing how a New York publishing firm sent their attorney to Chicago to investigate the whole question and this attorney learnt

> in the course of an interview with a man who was until recently the head of the *Government Bureau of Inspection* in Packingtown, that Major Seaman had spent but 24 hours in Chicago and but half an hour in the packing houses, and that he got the greater part of his information from a conversation with this former inspector! Major Seaman's article, you will remember, was in refutation not merely of my statements but also of those of the *Special Correspondent* of the London "Lancet," a man who had made the subject of slaughter houses a lifelong study. *As far back as* 1892 I can show you articles which he had published in the "Lancet," dealing with the municipal slaughter houses of Belgium and Germany. After spending several weeks laboriously examining every corner of Packingtown *he was refuted by* a man who spent half an hour there and showed in every line he wrote *that he had never been inside a modern abattoir in his life.*

It seems somewhat superfluous *after quoting this passage* from Mr. Sinclair's letter to make any further observations. Major Seaman, however, is not alone in adopting a point of view which, we maintain, is as false as it would be mischievous if generally endorsed. *Major Seaman says*:—

> *The reason why the killing takes place on the upper floor of the* buildings is because labour saving methods are necessary and it serves the purpose of quick distribution and saves the expenditure of labour in disposing of the products by gravity and thus making the delivery of the finished products on the ground floor to trains and wagons a simple matter.

Really, on re-reading this passage the suspicion arises that after all Major Seaman is perhaps a friend of reform in disguise. Certainly, the above passage might have been *written the better to destroy the packers. First, there is not* a word to show that killing animals on the upper floors of buildings is more humane and more sanitary; that it is easier to ventilate and to keep clean upper floors of big buildings; and that *when the animals are taken up to* such a height they are not so likely to be terrified or to realise that they are going to be killed. Arguments of this description, were they possible, would apply, *but no such reasoning is attempted. Instead of hygienic explanations* we are told, and this as if it were a dogma, that "labour-saving methods are necessary." Who, we should like to know, said they were necessary? If these *methods* were necessary for life-*saving reasons the argument might count*; but instead of demonstrating that these methods confer greater security we are told about quick distribution and *the facilities* of getting the finished article into wagons. What can all this have to do with the danger of the diffusion of pathogenic bacteria? How does the "disposal of the products by gravity" insure greater cleanliness? Obviously in all this there is no care, no *thought, no desire for anything* else but *profit*; labour-saving methods can have no other object. By making it quite clear that profit is the *only end pursued* Major Seaman renders a great service and formulates a terrible accusation against the stockyards. He must know perfectly well, as everyone knows who thinks over the matter, that the first necessity of life is food, not profit. Sanitary laws, laws against adulteration, legislation in all times and countries, have placed the primary necessities of existence in the first rank; the question of profit only comes afterwards and if necessary it must be foregone altogether. Nor is this latter sentence merely a fine-sounding phrase. Profits have been abandoned in many cases. For instance, there was a time when it was ardently urged that profit should be made out of the disposal of sewage. People advocated the maintenance of the cesspool, pail, or the bucket systems because their contents might be profitably converted into manure. But the water-*carriage system was adopted because it is healthier* and cleaner, though, as a rule, it involves the *complete* loss of all the manure and instead of profit entails a very heavy outlay. No one, *however, stopped to* consider the interests of the dealers in *poudrette* or human guano when the far more important interests of the health *of the* entire community were at stake. Yet if it is necessary to dispose of sewage in a satisfactory *manner surely it is* quite as important to see that the *food-supply* shall be clean and wholesome. To suggest that the loading of wagons more or less rapidly or easily can possibly be adduced as a sufficient reason for killing animals on the third floor of a *building in defiance* of all laws of health *and cleanliness* is to invite measures of repression against persons thus devoid of all sense of duty and responsibility. When Major Seaman writes in this manner he seems to be *hitting* the Beef Trust under the belt and profiting by his position as its supposed friend to smite it harder than anyone else does. Then Major Seaman says:—

> It would be absolutely impossible to have these slaughter-houses on the ground floor and in abattoirs as they exist in German and other European cities, where the product handled is comparatively insignificant in proportion to *that handled in Chicago.*

This is a handsome *testimony to the accuracy of our reports*, for we have insisted over and over again on the one great and condemnatory *fact* that, though many thousand animals are killed every day in the stockyards, there is no such thing in the technical sense of the word as a slaughter-house or abattoir throughout the entire premises. Of course, the fact *that many more animals* are killed at Chicago than elsewhere increases the necessity *of enforcing the most* elaborate precautions and of constructing modern abattoirs in the technical sense of the term, as they alone afford *guarantees of perfect sanitation. If* in the smaller establishments of Europe it is judged necessary to kill only on the ground floor and on watertight concrete flooring, with the maximum of air and light streaming in from all sides, such a *necessity naturally increases with* the amount of "product handled.' Therefore nowhere in the whole world are ground-floor abattoirs replete with every sanitary improvement more urgently needed than at Chicago.

Some of the continental abattoirs are not, however, such insignificant establishments as Major Seaman would infer. As a military man he should have been aware that on the continent the abattoirs must be ready for a contingency which *happily* is unknown in the United States of America. With war a mobilisation of two million troops in the course of a few days has to be foreseen and *provided for at the abattoirs. The war in Cuba* was but a small picnic as compared to what the mobilisation of the French and German armies would imply. Indeed, the autumn manœuvres in these countries are bigger undertakings *so far as the provisioning* with meat is concerned. Yet it was precisely in consequence of the foulness sent from the Chicago stockyards to the American troops in Cuba that the first *denunciation of the Beef Trust* was made. Everyone *by* this time has read the testimony given by President Roosevelt himself. As Lieutenant-Colonel of the First United States Volunteer Cavalry he said: "*The* canned *roast beef was* utterly and hopelessly *unacceptable. I should* say that, roughly, not a fifth of it was consumed. The cans, when opened, would show usually on top what looked like a layer of *slime*, a very disagreeable looking substance. The beef inside was stringy and coarse. It was like a bundle of fibres." Mr. Roosevelt added that "the great majority of the men if put upon it for two or three days would become sick."

A telegram from the New York correspondent of the London *Daily Mail* caps this statement by the following:—

> Attorney Brady of Chicago says a boy named Kearney lost his arm *in a grinder* in 1898 when the firm employing him had *a contract* to supply beef to the army engaged in war with Spain. *The foreman refused* to allow the machinery to be stopped at the moment and the arm was canned with the beef sent to the troops.

It is really quite cruel on the part of *Major* Seaman to compare the Chicago stockyards to the German abattoirs where provision is made for military purposes. *If any*thing similar to the above were to occur to the German army during war time and the Chicago magnates were managing the German abattoirs, how many *of them does* he think would be brought before a drumhead court-martial and shot offhand. But *Major* Seaman's hits do not cease here. *In regard to trichinæ* he *confirms our* report, for he speaks of the women *microscopists*, "whose duty it is to search exclusively for trichinæ in pork, through the examination of specimens from carcasses intended solely for export to Germany, France, Austria, and Denmark." He further admits that this was done because the foreign Governments insisted upon it and that the people of Great Britain and the United States eat the pork that contains trichinæ. He also recognises that there is no place for the workmen to rest and to take their meal in comfort at midday and acknowledges that "little is to be said" on this matter, an expression which might be taken to mean that such neglect is wholly indefensible. Then follows the question, "Are the stockyards unsanitary!" and this receives its answer in the shape of five accompanying photographic reproductions which conclusively indicate how absolutely impossible it is to maintain cleanliness in such buildings with their innumerable rafters, dark corners, and angles. The photographs also show the meat lying on the dirty floors.

Finally comes the most crafty hit of all. Major Seaman admits that "light is excluded in many departments" and indulges in the joke that darkness has the advantage of keeping the flies away, but he says these places are well ventilated because Chicago is known to be a "windy city." He adds that "the buildings in the stockyards are emphatically open to 'the four winds that blow.'" This must be meant for a sarcasm. Major Seaman must know that there is no ventilation provided at the stockyards. That in the absence of ventilation it may be possible to open some doors and windows without creating too keen a draught when the air is still. But the more violent the wind the more certain it is that the doors and windows will be closed. Thus the fact that the stockyard buildings are exposed to the four winds that blow confirms our affirmation that they are not efficiently ventilated, yet it is to the United States of America that we are indebted for one of the best text-books on ventilation. Before venturing to deal with so highly technical a matter as ventilation Major Seaman would probably have rendered himself acquainted with the work of his colleague, Surgeon John S. Billings of the United States Army. In this standard work on "Ventilation and Heating" Dr. Billings says that to prevent the same air being rebreathed air must travel up or down; therefore, and apart from the question of intolerable and dangerous draughts, doors and windows producing horizontal currents of air stand condemned. Then Dr. Billings insists that good ventilation is expensive. If Major Seaman really meant that there was good ventilation within the stockyard buildings he would have described the mechanical contrivances; the means of preventing draughts by the extensive diffusion of air inlets, the force of the fans, the velocity at which the air travelled, and, above all, the amount of money that had been spent. Such buildings would be as difficult to ventilate as a coal-mine and would require equally elaborate and expensive machinery.

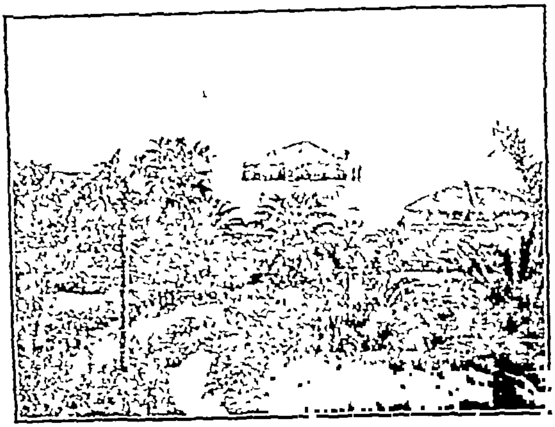
Then Major Seaman admits that "in all the places where animals were dressed after being killed there was more or less steam, more or less odour, and not as much light and ventilation as on the killing floor. The removal of viscera and separation of the parts for tankage is dirty work." Now this is precisely the state of things that does not obtain in a model abattoir and the only excuse given for its existence at Chicago is that "the stockyards business in no way relates to, or has any *correlation* with, an *art gallery* or with any other refinements of civilised life."

Here, again, we have an absolute and fundamental misconception, for it is precisely in the preparation of food, more than in anything else, that the refinements of civilised life are necessary, even before the science of bacteriology came to give us the reason why this was instinctively understood. All that the architect can imagine, that the engineer can do, that the mechanician can invent, that the chemist can demonstrate, that the bacteriologist can discover, that the veterinary surgeon can desire, and that the medical man may deem necessary, must be taken into consideration and brought to bear in the construction of the places where food is prepared *and* where cattle are housed and killed for food. If such a combination of *art*, science, and ingenuity does not constitute the refinements of civilised life then we are at a loss to understand the meaning of these words. But we are also at a loss to understand Major Seaman's article and are, as indicated above, half inclined to believe that his pretended defence of the Chicago stockyards was intended as a huge satire. In any case he has made a point of confirming most of the accusations brought forward in our report on the subject and with this we can rest well satisfied.

MONT ESTORIL.

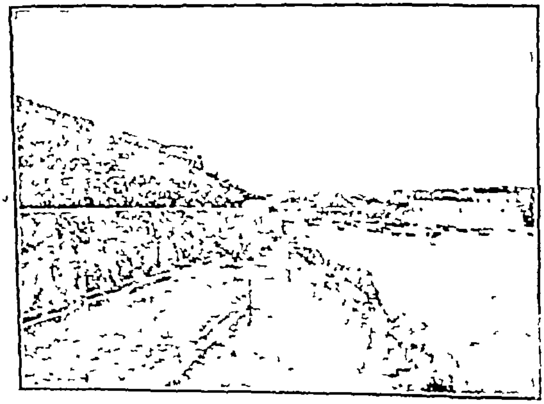
IN the Section of Hygiene at the Fifteenth International Congress of Medicine Dr. Dalgado spoke very eulogistically of the climatic and hygienic advantages of Mont Estoril. Our Special Sanitary Commissioner writes:—There can be no doubt that Dr. Dalgado made out a strong case for the climate. As for the sanitation, it is not easy to find on the continent places that respond to the British ideal nor are there many such perfectly drained health resorts in Great Britain itself. For the moment the principal safeguard rests in the fact that Mont Estoril is neither a town nor a village. It is a gentle slope on the sea shore, where a casino, two large hotels, and a certain number of villas have been built. These dwellings stand in their own grounds and the palm trees, the flowers, and the semi-tropical vegetation that ornament their gardens impart a great charm and interest to the place while testifying by their luxuriance to the warmth of the climate. A photograph which I took from my hotel bedroom window gives some idea of the open space and vegetation enjoyed just where there are the most houses (Fig. 1). That a place with so few houses and inhabitants should have any sort of public sewers and a public water-supply speaks well for its future. More money, more time, and a more extensive knowledge of

FIG. 1.



View from hotel window at Mont Estoril.

FIG. 2.



The bay and town of Cascaes, with the avenue of palms and the old fort to the left.

what is needed will all have to be brought to bear before any very large number of people will go to winter at Mont Estoril; still, it is a place with a future. Dr. Dalgado, I may explain, has retired from practice and is, for the sake of his own health, in search of a good climate. In speaking so highly of Mont Estoril he had no other material interest at stake than that of convincing himself as well as others that in selecting Mont Estoril for his winter quarters he has made a wise choice. As I was there during the Easter holidays I could not find anyone capable of giving me any technical information in regard to the sanitation of the place. The hotels were very clean and seemed well drained. The place might be considered somewhat dull but there are beautiful walks in the neighbourhood and the little town of Cascaes with its old fort is most picturesque (Fig. 2), as also is the celebrated *Bocca do Inferno* which is close at hand. It is, however, necessary to have a rough sea so as to appreciate its terrors. Undoubtedly there is much to be said and to be done not only in regard to Mont Estoril but in respect of many other places in Portugal which might become popular health and holiday resorts.

From Mont Estoril to Cascaes there is an excellent high-road that skirts the sea shore and passes in front of the villas built on the top of the sandy hill and low cliffs. Many of these dwellings, by reason of their fantastic architecture, add to the interest of the walk. The O'Neil residence notably is a revival of old Portuguese architecture built at the end of a creek with castellated towers, a bridge in front, and the sea running to the basement where there is a water gate to the villa or perhaps it might be called a mansion. As this road runs from west to east it is fully exposed to the sun and the rays through the clear atmosphere seemed to me dangerously hot. It would be imprudent for persons who are not accustomed to the southern sun and are not well sheltered to walk along here rapidly as if they were in England. Where there was shade as well as a slight sea breeze the air was most enjoyable and seemed distinctly more invigorating than that experienced on the coasts of the Mediterranean. The people who pass to and fro are very polite but there is a tendency to beg on the slightest pretext. As yet on this sea coast there is but a scant population so that drainage problems for the time being have not assumed very serious proportions. Still, it would seem that the sanitary accommodation in the houses of the poorer people is inadequate. In the passages under the railway line and in other dark and retired places there is evidence that a considerable number of people have not the necessary closets at home. This filth also testified to the inefficient organisation of the scavenging department by the local authorities. If Mont Estoril is to become a popular resort for the Americans and English this is a matter that must no longer be neglected.

What might be called the Portuguese Riviera consists of Mont Estoril which has the greatest claim to be considered a health resort; then there are the villages of Estoril and of S. João d'Estoril and the little town of Cascaes. At the last place there is a bay where some fishing boats cast anchor and a fine old fort stands on the rocks that extend into the sea. Under the walls of the fort there is a beautiful avenue of palm trees, where cool shady seats command an extensive view of the bay and the coast line. Within the fort there is a royal residence where the king comes during the hot summer months. Beyond Cascaes the cliffs become more picturesque and more wild but the position is more exposed and less suited for residential purposes, especially in the winter.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Waterworks Committee and Health.

THE waterworks committee of the Manchester corporation passed a resolution a short time since to the effect that it was undesirable at present to extend the consumption of water in connexion with the extension of the water-closet system. The reasons given were, "the increasing demand for water in the city and the district of supply, and the fact that the third pipe from Thirlmere will not be completed for several years after the work of laying is commenced." It amounted to this in fact, that they could not spare the water or rather that they did not wish it to be used for the extension of the water-closet system. The consumption of water has grown enormously of late years, so that Sir Bosdin Leech, chairman of the committee, was no doubt justified in laying the matter before the council. It appears that the chairman of the cleansing committee had intimated that in connexion with the change from middens and pails to the water-closet system between 2,000,000 and 3,000,000 gallons a day would be wanted. 20 years ago Manchester consumed daily 20,000,000 gallons. After the Parliamentary struggle over Thirlmere the consumption was fixed at 25,000,000, while to-day it is 31,000,000 gallons. Sir Bosdin Leech estimates that if water-closets were universally adopted in Manchester the consumption would be 36,000,000 gallons and, instead of stopping at a third pipe, a fourth would be wanted. Whatever may be thought of these anticipations there is no doubt that the bringing of another pipe from Thirlmere will be a costly matter, variously estimated at from £600,000 or £700,000 to £900,000. A reservoir is also being constructed at Heaton Park which will cost £600,000. This shows that there is some ground for the temptation to restrict the output. It has become a terribly costly matter to supply the primitive needs of great urban populations and pure water is rapidly becoming a most expensive beverage. But, as Mr. Fildes, the chairman of the sanitary committee, said, this proposal to restrict the use of water-closets had been brought up ever since he had been in the council. In 1892 the council went thoroughly into the matter and found that the high death-rate was very largely due to the midden system. Gradual conversion into closets has been going on for some years but two-thirds of the population still live under what has been described as "this horrible condition." "London, Liverpool, Glasgow, Edinburgh, and other towns had entirely abolished the system under which a great part of Manchester suffered," and it was amazing that this retrograde suggestion for saving water should be brought forward. In the end the proposal of the waterworks committee was rejected by a large majority. This decision should be welcome in the poorer districts of Manchester.

Economy in Bath Water.

As bearing on the Manchester water-supply a remarkable statement was made at a Local Government Board inquiry at Wigton some days since by the Inspector. In speaking of the large quantity of water used at the public baths, he asked why they did not filter the water and use it over again, saying that it was done in Manchester and other places, and he was told that in one of the Manchester baths the same water so treated had been in use for a year without being changed. It would be interesting to have the baths committee's report.

Food Inspection at the Port.

At a meeting of the Manchester city council on June 13th the action taken a month ago as to the application of the port sanitary authority for a provisional order for food inspection at the port was confirmed. The council then asked that the application should be suspended till all the ports were put on equal terms. The port sanitary authority would not accede to that request, so Parliament is to decide. A Bill favoured by the port authority will shortly come before the House of Commons for second reading and its rejection will be moved. The Lord Mayor said that all they asked for was that Manchester should be placed on an equality with other ports. Manchester would not object to any measure, "however stringent or severe," so long as it applied to all ports without exception. This position certainly seems fair. If the inspection order were enforced here and not elsewhere Manchester might get less and the other ports more objectionable food, but the total importation into the country would probably be unaffected.

Filthy Milk-cans.

Some distinction may be drawn perhaps between *pure* milk and *clean* milk. The former, of course, implies the latter, but there is as much difficulty in obtaining clean milk—free, that is, from common dirt—as milk that is chemically pure. It is indeed difficult to prevent its contamination, for it is so ready to take to itself when exposed everything it ought not. Anyone who has seen a well-managed milk farm knows how scrupulously clean all the cans and other utensils have to be and the trouble involved in the scalding of the different vessels used. Knowing all this some sympathy may be felt with the Cheshire farmers in the neighbourhood of Runcorn, one of whom, at a meeting of the Runcorn rural district council a week ago, stated that the Manchester and Liverpool authorities sent the milk-cans back to the farmers in a condition not fit to receive milk. In such weather as we are having, he said, "when the lids were taken off the cans were not fit for a human being to put his nose to," a statement that may be believed. The cans should be sent back clean and well rinsed. To those farmers who do their best to send clean milk to the towns the neglect of the authorities as to this matter is felt as a grievance, giving point to the complaint that "the experts paid no attention to this; it was all the farmers." When so much is expected from one side it is only fair that the town authorities should facilitate and not make more difficult the supply of pure milk.

June 19th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Carnarvonshire Combined Sanitary District.

THE combined sanitary district of Carnarvonshire and the adjoining counties was formed by the Local Government Board in 1876 under Section 286 of the Public Health Act, 1875. There are now included in the combination 14 urban and 11 rural districts. In his recently issued annual report, the medical officer of health (Dr. Peter Fraser) draws attention to the high rate of infantile mortality which in 1905 was equal to 132 per 1000 births, the rural districts as a whole having as high a rate as the urban. A striking exception is in the case of Colwyn Bay where the rate was only 84 per 1000 births. Dr. Fraser considers that among the changes in procedure which would be of service in dealing with the existing dangers to the health and life of infants are to be included the registration of stillbirths, the more prompt registration of births, and the making of registrars of births and deaths officers of the sanitary authorities. Special attention appears to have been given during the year to the condition of the cowsheds and dairies and it is satisfactory to find that 17 of the 25 sanitary authorities in the combined area have adopted regulations under the Dairies, Cowsheds, and Milkshops Order. Dr. Fraser points out the extreme importance of prompt isolation and treatment in hospital of cases of infectious disease and suggests that a representation under the Isolation Hospitals Act, 1893, should be made to the Carnarvonshire county council by one or more of the sanitary authorities unprovided with a suitable hospital requesting that a hospital district or districts should be declared. The death-rate from tuberculosis was high. In the whole of the combined district with a population of 170,000 it was 2·3 per 1000. The result of investigations made into the surroundings of houses in which tuberculous disease was known to exist showed that in 8 per cent. of the houses there was some sanitary defect such as dampness, insufficient cubic space, or insufficient lighting and ventilation. In 25 per cent. of the cases there was found to be a predisposition to the disease in the family.

First Aid in Colliery Districts.

Ten or 12 years ago there was a great deal of interest displayed in connexion with the ambulance classes which were held in the colliery districts of Glamorgan. The technical instruction committee of the county council arranged for many of the classes in first aid and at the local Eisteddfodau prizes were given to competing teams. For a few years the enthusiasm fell off but it has been revived in the Rhondda district through the presentation by Sir Charles Warren, K.C.M.G., of a shield to be competed for by ambulance teams composed of residents in the two valleys. The first competition was held on June 9th, when Sir Charles Warren was present. 11 teams competed, each consisting of 16 members. They were nearly all connected with one or another of the collieries in the district. The winners came from Ferndale, the boys' team from the same district being placed second and the team from the adjoining district of Maerdy was placed third. The importance of having in every district of a colliery properly trained men able to give first aid cannot be exaggerated. A fall of roof or a crush against the wall of a narrow passage are common causes of accident and it is not difficult to understand how readily a slight injury may be turned into a serious one through ignorant or careless handling of the injured person while he is being conveyed from the colliery workings to his home or to the hospital.

The Accommodation for Crews in British Ships.

In his annual report to the Newport (Mon.) port sanitary authority Dr. J. Howard-Jones again draws attention to the unsatisfactory accommodation provided for the crew in many of the new British ships. He contends that this is in great measure due to the keen competition which obtains in the merchant service so that vessels are designed to carry as much cargo as possible and the crew's quarters are not sufficiently considered. After the vessels have been passed by the Board of Trade and arrive at a British port during a voyage they come under the observation of the port sanitary authority and Dr. Howard-Jones says that it is not at all an uncommon occurrence for the latter to insist upon structural alterations in order to remedy nuisances soon after the vessel has been passed by the Board of Trade. He thinks that this unsatisfactory state of affairs could be avoided by the appointment of some recognised authority responsible for making regulations with respect to such matters and that there would also result better accommodation for the crew without any extra cost to the owners.

A Memorial to Henry and Sarah Fielding.

A cordial welcome was extended to Sir A. Conan Doyle who visited Bath on June 15th for the purpose of unveiling a mural tablet which has been erected by the corporation to commemorate the fact that Henry Fielding, the author of "Tom Jones," and his sister Sarah, the writer of "The Adventures of David Smith," lived there in the eighteenth century. There was a large attendance at the unveiling ceremony. Subsequently, at the Guildhall, Sir Conan Doyle was entertained at luncheon and was presented with eight volumes of Henry Fielding's works published in 1771. In replying to the toast of the day he made some interesting references to Fielding's literary work and connexion with Bath.

The Workmen's Compensation Act.

Under the Workmen's Compensation Act a claim was brought by a farm labourer at the Bristol county court on June 13th against a farmer at Yatton. The applicant, who was employed by the defendant, was born without the sight of one eyes, and in November, 1905, whilst he was trimming a hedge a thorn injured his sound eye and eventually rendered him totally blind. His honour Judge Austin awarded the applicant compensation at the rate of 7s. weekly, this amount being half his weekly wage.

The Dolgelly Urban Council and Isolation.

An epidemic of scarlet fever having occurred at Dolgelly, North Wales, the urban council has for some time been considering the desirability of providing an isolation hospital. A difficulty was experienced in regard to finding a site but the council has now been offered a piece of land as a free gift. At a meeting of the council held on June 15th a proposal was moved and seconded that the offer should be accepted and that an isolation hospital should be erected. An amendment to defer the matter was supported by Mr. Allen who, though in favour of the movement, contended that there was a difference of opinion among medical men on the question and stated that a writer in THE LANCET had brought forward statistics to prove that isolation hospitals had not been successful in preventing the spread of disease. The medical officer of health (Dr. Hugh Jones) emphatically advised the council to provide isolation as the most effective check to infection, pointing out that if the first few cases had been isolated the epidemic would have been at an end. He regretted that he was not able to isolate his child in hospital. Mr. Allen, he said, had not fully understood the nature of the considerations which guided medical men in the matter and he did not accept the conclusion which Mr. Allen arrived at. As the sanitary authority of the district the council was responsible for the local health requirements and nothing would justify it in throwing away the opportunity of obtaining a site for the isolation hospital. Dr. Jones added that all the medical men in his district were of the same opinion on this subject. The amendment was carried, whereupon Mr. Fox, county court registrar, who had moved the proposition to erect a hospital, proposed that the council should adjourn as it was not in a fit frame of mind to transact further business. This unusual procedure was adopted and the meeting dispersed.

June 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Importation of Boneless Meat.

AT the summer conference of the Scottish Chamber of Agriculture and Associated Societies some discussion took place on the import trade in boneless meat which has now reached considerable dimensions. It was urged that the effect of this large importation was to reduce the price of dairy cows when sold to the butcher and it was also pointed out that unless foreign beef came into the country in carcass form it could not be efficiently inspected.

The Sampling of Milk.

The agricultural correspondent of the *Glasgow Herald*, in referring to a recent case at Airdrie, has drawn attention to some errors which may arise in testing samples of milk. In this case the sanitary inspector took a sample in the ordinary way from a barrel out of which customers were being supplied. One portion of this sample tested by the public analyst contained 2·68 per cent. of milk fat and was consequently 0·32 per cent. under the legal standard in fat. A second portion from the same drawing sent to Somerset House gave 2·49 per cent. of milk fat and a third carefully analysed by Mr. T. W. Drinkwater of Edinburgh yielded 4·55 per cent. of fat. As the average of the analyses brought out 3·24 per cent. of fat the prosecutor's case broke down. In this instance the seller was disposing of morning milk and when he found the contents of the barrel to be pretty low and not running evenly from the tap he poured in a few gallons of evening milk from another "butt." In the case of the milk from the previous evening's taking the cream would probably be more or less clotted and therefore unevenly distributed through the body of the product. When the inspector took his sample the inference is that he had the full legal due of fat but in doling out the sample into three portions for analysis the Edinburgh analyst received extra clots of fat while the local man and Somerset House had much less than an average amount of the sample. Should this inference be correct it points to some alteration being necessary in the methods of sampling milk.

Aberdeen University Medical Society.

At a meeting held on June 15th, Professor J. T. Cash presiding, Dr. H. M. W. Gray delivered an interesting and instructive address on the Operative Surgery of the General Practitioner. Concrete examples were cited to show how the general practitioner may readily enough be called upon to perform single-handed some of the most serious operations, when, as at sea or on the veldt, skilled assistance is unavailable; and, again, in such circumstances as preclude the loss of time entailed by waiting for such assistance. Dr. Gray pleaded for better accommodation in our hospitals for operations on out-patients, and expressed himself as in favour of the establishment of cottage hospitals in the country, where the major operations might be performed by the specialist while the so-called minor operations might quite well be left to the general practitioner. Many excellent practical hints were given regarding the management of these minor operations. There was a large attendance of medical men and all listened closely to what Dr. Gray had to say. Dr. George M. Duncan made a few remarks and on the motion of Dr. George Mitchell, the president, Dr. Gray was awarded a hearty vote of thanks.

Fife Medical Men and the Notification of Pulmonary Tuberculosis.

The members of the Fifeshire Medical Association and the Fifeshire branch of the British Medical Association on June 15th, visited the Ochil Hills Sanatorium, a fine and well-equipped building, surrounded by extensive pine woods, 800 feet above sea level. At a meeting held afterwards an interesting discussion took place as to the notification of pulmonary tuberculosis as an infectious disease and its treatment by public authorities. A motion that it was desirable in the interest of public health that local authorities should add pulmonary tuberculosis to the list of diseases notifiable under the Notification Act of 1889, after discussion was carried by a large majority.

June 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

Lord Castletown has been appointed to be Chancellor of the Royal University of Ireland in the room of the Earl of Meath, resigned.

The Case of Dr. James Byrne Coleman.

A meeting was held recently at the Royal College of Physicians of Ireland, the President, Sir William Smyly, being in the chair, when the following motion was adopted, proposed by the President of the Royal College of Surgeons in Ireland, Sir Arthur Chance, and seconded by Sir Arthur V. Macan:—

> That we, the professional brethren of Dr. James Byrne Coleman, hereby congratulate him on the successful manner in which he has recently refuted the unfounded charges brought against him and express our sympathy with him in the trouble through which he has passed without blemish on his character or honour.

Pursuant to a further resolution, a copy of the foregoing resolution has been posted to all the members of the medical profession in Ireland.

The Public Health Appointment in Belfast.

At the adjourned meeting of the Belfast city council in committee on June 18th the salary was fixed for the medical officer of health at £600 per year. It was first moved by the chairman of the public health committee that the payment should be £800, to which an amendment was proposed to the effect that it be £750, rising by £50 annually to £1000, and that the person appointed should have at least three years' experience as medical officer of health in Ireland or medical officer or assistant medical officer of health in Great Britain. This amendment was lost by 25 votes to 11. Then another amendment, fixing the salary at £600, was passed by 19 votes to 14. This was finally adopted as the substantive motion by 21 votes to 16, an amendment to make the salary £500 being lost. The decision was reached at a meeting of the city council where out of 60 only 37 voted. It will not be likely to put an end to the existing state of friction. It will be regarded as a distinct slap in the face to the public health committee and it means, if it is confirmed by the city council, that there may be no first-class candidates for the very important office. It is fortunate that the Local Government Board has a veto in the matter and it is expected that this department will be urged by the citizens to veto such an inefficient salary.

Presentation to Mr. Charles Darnell.

The friends and patients of Mr. Charles K. Darnell of Bangor, county Down, presented him on June 12th with an illuminated address, a silver rose-bowl, and a purse of 100 guineas. The chair was occupied by Lord Clanmorris. Mrs. S. C. Davidson presented the address, the Dowager Marchioness of Dufferin and Ava presented the rose-bowl, and Lady Clanmorris handed the purse of 100 guineas. Speeches extremely flattering to Mr. Darnell were delivered.

Ulster Medical Society.

The annual meeting of the Ulster Medical Society was held in the Medical Institute on June 14th, the President (Dr. W. Calwell) being in the chair. The annual reports showed that there were 188 members and that financially there was a balance to credit. It was decided that the office of president should be tenable for one year only. Dr. D. P. Gaussen (Dunmurry) was elected president, Dr. F. H. Sinclair (Rostrevor) and Dr. W. B. McQuitty vice-presidents, Dr. H. Stevenson secretary, Dr. V. G. L. Fielden treasurer, Dr. W. L. Storey librarian, and Dr. J. C. Rankin editorial secretary.

Tuberculous Pork in Belfast.

At the weekly meeting of the markets committee of the Belfast corporation held on June 16th it was reported that seven carcasses of pork affected with tuberculosis had been seized during the three months March, April, and May in the markets, while during 1905 there had been only two seizures of tuberculous pigs. Apparently the disease is now more prevalent than it has been during some time past. These seizures have all been made from pigs passing through the markets, numbering about 400 per week, whereas the average number coming into the city is about 5000 weekly.

June 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Gunshot Wound of the Lung; Operation.

AT a meeting of the Surgical Society held on May 30th M. Tuffier said that the majority of gunshot wounds of the lung healed without any other treatment than aseptic closure of the wound and keeping the patient at perfect rest. In a certain number of cases, however, the intra-pleural hæmorrhagic effusion became septic and it then became necessary to do a thoracotomy to drain the pleural cavity. Again, in occasional instances a primary operation was necessary on account of the grave symptoms presented by the patient. Such a case had occurred in M. Tuffier's practice, it being that of a young woman who had received a gunshot wound of the lung in the cardiac region. Left pneumothorax supervened, with subcutaneous emphysema and urgent asphyxia. Thoracotomy was immediately performed and at the bottom of the wound the pericardium was found intact, while the pleural cavity contained a quantity of blood. A tongue of pulmonary tissue presented in the wound which M. Tuffier was able to seize and to draw out. In this tongue was an orifice admitting the index finger, from which blood welled up profusely. A double ligature was applied and the pleural cavity was cleansed and drained. Septicæmia, however, supervened and the patient died on the third day. No post-mortem examination was allowed, so that the source of the septicæmia was undetermined.

Jejunostomy with Torsion.

M. Guinard, for M. Souligoux, read a paper containing some remarks upon jejunostomy before the same meeting of the society. The paper dealt with two cases, the first being that of a man, aged 60 years, who suffered from pyloric stenosis, but the stomach was so widely involved that it was found impossible to perform a gastro-enterostomy. M. Souligoux therefore determined to do a jejunostomy "*en Y*," together with the application of torsion, a method which he had previously recommended for gastrostomy. The patient lived ten days after the operation but during the whole of this time the walls of the opening into the jejunum remained in perfect contact with the abdominal wall. The second case was that of a patient with cancer of the cardiac end of the stomach. As in the former case, there was so much involvement of the viscus that a jejunostomy had to be performed and this operation was carried out "*en Y*," with torsion. The patient lived for two months and union remained perfect. M. Guinard raised the question as to whether the method "*en Y*" was useful, since the torsion was the factor upon which operators relied to secure good union. In a case under his own care he had performed jejunostomy with torsion simply, with an excellent result in so far as regarded union, but the patient died on the tenth day after the operation.

The Children of Tuberculous Parents.

M. Calmette, the director of the Pasteur Institute at Lille, read a paper on June 11th before the Academy of Sciences. The subject of the paper was that of children born of tuberculous parents and M. Calmette affirms that his experiments, carried out in collaboration with M. Guérin, enable him to affirm that it is possible to immunise children from their birth against tuberculosis by means of repeated and very attenuated doses of tubercle bacilli. For a period of four months, however, and this is the great difficulty, the children must be protected from any outside infection whatever, which end is only to be attained by the creation of special nurseries. This difficulty is only of slight importance in comparison with the raising up of a race which is refractory to one of the most deadly of diseases. Dr. Roux, in collaboration with M. Vallé, has confirmed the experiments carried out by M. Calmette but he cannot hold himself responsible for the results of any treatment which may be entered upon as a consequence of such experiments.

Commission on Tuberculosis.

M. Netter, who has drawn up the report of the Commission on Tuberculosis, laid the following statements before the Academy of Medicine on June 5th: 1. Statistics of the cause of death cannot be considered as trustworthy unless the declarations have been made by medical men, but in all such cases precautions must be taken to see that professional secrecy is not violated. 2. The question of the revision of the causes of death which is to serve as a basis for declarations of death cannot be definitely decided before the meeting of the next International Conference in 1910. 3. The notification of infectious maladies which is at present obligatory on a medical man should also be obligatory on the head of the family, the landlord, or the head of a business or other establishment. 4. With regard to the fight against tuberculosis the medical man in charge of the case shall instruct the friends of the patients in the measures to be taken to prevent infection, and this medical man, the patient's family, or the head of the business or other establishment can demand disinfection in a case of undoubted tuberculosis. Such disinfection is above all necessary in the case of death of the patient or when he changes his domicile. It is also necessary in so far as regards tuberculosis to organise the fight against this disease by means of a special law, which law should take into consideration not merely the transmissibility of the disease but also the etiological factors in it, such as unhealthy dwellings and alcoholism. 5. The Academy should call the attention of the public authorities to the necessity of the active working of the disinfection regulations laid down by the law of Feb. 10th, 1902. Whooping-cough is added to the list of infectious diseases declared by the Academy to be compulsorily notifiable. These regulations were adopted by the Academy.

Appendicitis and Muco-membranous Typhlocolitis.

M. Dieulafoy made a very important communication to the Academy of Medicine on May 29th. He commenced by saying that he was, and always had been, one of the most strenuous advocates of surgical methods in the treatment of appendicitis but he observed that many patients were mistakenly operated on for this condition, although they did not suffer from it. He said that muco-membranous typhlocolitis was characterised by alternations of constipation and diarrhœa, in the course of which the patient passed mucus, glairy fluid, portions of membrane, and sometimes gritty matter (*sable*). This disease, moreover, caused from time to time attacks of abdominal pain occasionally localised in the right iliac fossa—attacks which might lead to the diagnosis of appendicitis. In support of this opinion he related clinical histories of some patients who had in recent years been mistakenly operated on for appendicitis although they were only suffering from muco-membranous or sandy typhlocolitis. It was therefore of the greatest importance to distinguish between the painful attacks of typhlocolitis and those of genuine appendicitis. On the other hand, as it was now proved that the various forms of muco-membranous typhlocolitis were neither excited nor kept up by appendicitis, the removal of the appendix ought not to enter into the treatment of these diseases. Patients who were the subjects of typhlocolitis and whose appendices had been removed continued to suffer as before and to require medical treatment. Only suppurations or toxin-infected foci in the appendix were benefited by surgical treatment. M. Lancereaux, in expressing his agreement with these views, said that hysteria and certain effects produced by absinthe-drinking were often mistaken for appendicitis.

Opening of the Filter Beds at Nanterre.

Filter beds have recently been constructed at Nanterre for the filtration of the water supplied to seven communes in the vicinity of Paris and were formally opened on May 27th. The Prefect of the Seine presided at the ceremony and inspected the works attended by the engineers and principal officials of the water company.

Day Nurseries for Infants in Hospitals.

It is announced that the Assistance Publique of Paris has, on the application of numerous medical men, established at the Hôpital Saint-Antoine and at the Hospice d'Ivry two day nurseries for the infants of the female staff (*deux crèches pour les nourrissons des infirmières*) of these institutions. These nurseries, corresponding to the *garderies* in the majority of cases. Dr. Maddonald had 40 cases, with two deaths, under his own charge.

Toronto University Commission and the Faculty of Medicine.

The Government of the province of Ontario some months ago appointed a commission to deal with the best methods of governing and administering the affairs of Toronto University. Some eminent educationists, judges, and prominent commercial men, as well as two or three teachers, composed this commission, Professor Goldwin Smith being also of the number. In its report the following paragraph appears relating to the medical faculty. After paying a high tribute to the members of the medical faculty for their self-sacrifice and zeal in medical teaching the report says the ultimate incorporation of the faculty into the University with the same relations as the other faculties is recommended. In the meantime it is recommended that the University should at once pay the salaries of one professor of pathology and one professor of anatomy, as is common in the case of other universities, and should create chairs in hygiene and pharmacology.

June 14th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Increase in the Number of Pauper Insane

THERE seems to be a similar tendency to increase in the asylum population in India as in the United Kingdom but the increase is less rapid. The growth in the number of lunatics in Bengal is attributed partly to an increased confidence in the institutions and partly because the people seem to be taking advantage of them in order to get rid of the burden of supporting incapable relatives Instead of having small asylums distributed over the province it is the intention of the Bengal Government to concentrate all the lunatics at one large central asylum to be erected at Ranchi. An advantage of this arrangement will be that the asylum will be placed in charge of an expert. A further proposal is under consideration to establish one central asylum for all European lunatics and Ranchi is also suggested for this new institution.

The Decline in the Plague Epidemic.

The plague epidemic this year has been much less severe and the weekly returns are now showing a steady decline in the number of deaths. For the week ending May 19th there were reported 13,061 cases and 11,783 deaths The provincial returns are as follows: Punjab, 9248 deaths; Bombay, 1002 deaths, United Provinces, 918 deaths; Bengal, 228, Kashmir, 220; Burma, 95, Central India, 25; Mysore, 20, Rajputana, 18; and Madras, 2. Disturbances arising from carrying out even the mild current plague measures continue to occur. The last reported was in Rangoon, when Captain Simpson made an inspection of a house in the east of the town. It was necessary to enter the house because a suspicious case of illness was known to have occurred, but the residents resisted and a crowd soon collecting attacked Captain Simpson and his staff with sticks and stones. Assistance was promptly at hand and some 20 men were arrested. In consequence of this all the garrywallahs (cabmen) went on strike, but the inconvenience will fall on the native community who are almost entirely their customers. Fortunately, the officers on duty escaped with only slight injuries. This case, however, is another proof of the risks and dangers which the plague officers in India have had to run. The investigations into the spread of plague which have been conducted in Bombay strongly tend to prove the rat theory of plague and the association of the flea as a carrier of the infection The black rat (*Mus rattus*), which is said to be the common rat of India, is entirely different in its habits to the brown or Norwegian variety. The former lives in the roofs of huts and is on the move amongst human beings Consequently, when attacked with plague infection from the rat is comparatively easy and may be carried in several ways The brown rat lives in sewers and away from houses and does not come into such close contact with man and consequently there is not so much danger from this variety of rat The question of seasonal prevalence is now being studied and more particularly the habits of rats and their parasites, their breeding season, and the existence of chronic plague among them when the disease is not epidemic.

The Health Officer of Calcutta.

The prolonged discussions of the corporation of Calcutta with regard to the health officer have resulted in an extension of service to Mr. J. Nield Cook for about 18 months, but as he proceeds on leave immediately on account of ill-health Dr. T. F Pearse of the plague department has been appointed to officiate for seven months.

May 31st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

ONE further fatal case of bubonic plague occurred in Sydney on May 11th and infected rats continue to be caught in the infected area in Sydney—the Darling Harbour district.

Small-pox in Tasmania.

A small outbreak of mild small-pox has occurred in Tasmania. Prompt measures have been taken, "contacts" have been isolated and vaccinated, &c, and the disease has not spread.

Typhoid Fever in Victoria.

Several cases of typhoid fever at Richmond, Victoria, have been traced to contaminated milk from the same dairy at Preston as supplied milk to the cases at South Melbourne (referred to in a previous communication) The recorded cases of typhoid fever in Victoria for the last three years were as follows: 2488 in 1903, 2037 in 1904, and 1336 in 1905. In investigating the condition of the drains at Preston the officers of the Board of Health found that night-soil was largely used on farms as manure and that it was not always properly covered over. One of the reservoirs for the metropolitan water supply is in Preston and the main aqueduct—an open channel—runs through the district. Yet this practice of allowing night-soil to be deposited on farm lands in proximity is still allowed and the local health officer for the district appears to approve of it. He reported to the Preston council that—

> Over 20 years ago I impressed on my council that the sole danger was in burying excreta, not in using it as a manure spread upon the surface. Experience has confirmed this, as the shire has been remarkably free from typhoid since burying was discontinued, no cases being directly traceable to manure.

He does not believe that typhoid germs could be carried in dust to the reservoir and accuses the health authorities of "being steeped in mediæval superstition" for so considering. At the meeting of the board of public health on April 20th a report was presented on the prevalence of typhoid fever and in discussing it reference was made to the defects in the Health Act, and especially to the way health officers were appointed by the municipalities. There were 280 of these and the average rate of salary for each health officer was £20 per annum. It was recommended that health officers should be appointed by the board in charge of districts with good salaries and no other duties or private practice The chairman was instructed to bring the matter under the notice of the Government.

Jubilee of the University of Melbourne.

The University of Melbourne has just celebrated its jubilee. It is really more than 50 years since it was founded It was constituted by Act of Parliament which received the Royal assent on Jan. 22nd, 1853 The first council met on May 3rd, 1853, and the foundation-stone of the building was laid on July 3rd, 1854, but the building was not ready for occupation till June 3rd, 1855 The first students numbered 16, while now there are over 700 attending lectures The university began with four professors, now it has 15, besides many lecturers and demonstrators The university in its 50 years has become year by year a greater force in the community Its own graduates have become its councillors and its professors and teachers Among the learned professions which have been fields of competition for graduates of all universities Melbourne men have more than held their own In law, and in medicine especially, the leaders are for the most part Melbourne trained men The university has also supplied professors and teachers to other universities not only in Australia and New Zealand but to other countries, one being a professor in the Imperial University at St. Petersburg and another at Cairo.

University of Sydney.

Sir Arthur Renwick, M.D., has been elected Vice-Chancellor of the University of Sydney. Dr. F. P. Sandes has resigned the position of demonstrator of anatomy and Dr. S. A. Smith has been appointed in his place.

Hospital Affairs.

The annual meeting of governors and subscribers of the Royal Prince Alfred Hospital, Sydney, was held on April 9th, his Excellency the Governor presiding. Professor T. P. Anderson Stuart, in moving the adoption of the report, said that the number of deaths (303) was the lowest for many years past, the highest total being 380 in 1900, while the mortality per cent. on operations was absolutely the lowest on record in the history of the hospital, being only 2·09, as against the previous lowest percentage of 2·4. The number of out-patients treated was the highest on record, the number of attendances being 50,079. The number of operations performed (2335) was likewise the high-water mark of the hospital. During the year six large wards and one small ward in the new pavilions had been opened, thus increasing the total number of beds available from 236 up to 318. An intimate relationship had been established between the hospital and His Majesty's fleet in that the surgeons of the fleet had been, by a new by-law, made consulting medical officers of the hospital for naval patients. The finances of the hospital as a whole showed a deficit of £1276, but this was not a real deficit, being due to the fact that considerably over £2000 had been paid out of revenue for additions and works of a permanent character and of one sort and another. The erection of the Queen Victoria pavilions has necessitated some alterations and permitted additions. The pathological department has been greatly extended and rooms have been provided for chemical investigations and photography. A cold storage plant has been erected and the whole department when complete will be unsurpassed in the Commonwealth in its extent and facilities for research. At its last monthly meeting the board of directors decided to increase the honorary staff by appointing an additional physician and surgeon, an assistant ophthalmic surgeon, and an assistant gynæcological surgeon. It was also resolved to create a new lock department and a department for medical gymnastics. The board has also decided that in the case of future appointments to the nursing staff the term of service should be four instead of three years.—On April 10th his Excellency the Governor laid the foundation-stone of the new south wing of the Sydney Hospital. The old south wing, erected in 1859, had become unsuitable and insanitary and had to be demolished and a new building was to be erected estimated to cost £20,000. During the past ten years 39,727 patients were admitted to the wards, while 167,583 out-patients were treated. The casualty patients numbered 89,277 and the operations performed totalled 24,238.—The managers of the Alfred Hospital, Melbourne, recently waited on the Treasurer of Victoria to protest against a reduction of the Government grant to that institution. Last year it was decided that the grant should be distributed to all the hospitals on the basis of the daily average number of patients and that no grant would be made for a longer period than 25 days' stay for each patient. The result was a diminished grant in several cases. The managers of the Alfred Hospital maintained that it occupied a different position from the hospitals in the city as it necessarily had fewer patients whose stay in hospital was short. The Treasurer, in reply, said that he had caused statistics to be prepared by the Inspector of Charities and he found that the amount of money spent on administration was excessive, being 76 per cent. of the total expenditure. In the Alfred Hospital it was 72 per cent., the management costing £7852 per annum, and the actual expenditure on patients £2986. He was not inclined to increase the vote for charities but was inclined to consider some scheme for amalgamating the hospitals. The figures prepared by the inspector have been much challenged. He arrives at the actual expenditure on patients by including the cost of provisions, surgery, and dispensary, less the cost of the board for nurses and attendants, which he estimates at 10*s.* per week each. In the case of the Alfred Hospital such a method works out that the cost of sustaining the patients is only 4*d.* a day, which is obviously absurd.—An inquest was held on the body of a child who died at the Coast Hospital, Sydney, in the following circumstances. She was admitted to the Sydney Hospital on April 7th, suffering from severe scalds. On the 12th by direction of Dr. H. L. Maitland, one of the honorary surgeons, she was removed to the Coast Hospital as she was alleged to have developed scarlet fever. The superintendent at the Coast Hospital said that she was moribund on arrival and died soon after admission. He thought that she ought not to have been moved. The post-mortem examination showed that the cause of death was septicæmia. The coroner found that the deceased died from that cause and from the weight of evidence and the circumstances of the case the transference to the Coast Hospital was a proper course to adopt.

Friendly Societies in New South Wales.

The report read at the annual meeting of the Friendly Societies' Association of New South Wales stated that there were 1139 branches, 91,014 members, and benefit funds amounting to £784,467.—On March 30th, the new buildings erected at Redfern, Sydney, as a dispensary for the United Friendly Societies were formally opened and the occasion was celebrated by a banquet. In proposing the toast of "Our Institution," Mr. McGowan, M.L.A., said that they had 10,000 members and with such a number they ought to have not only their own dispensary and dispensers but also their own medical men as well, then they would be more independent.

Verdict against a Medical Man upset on Appeal.

As mentioned in a former communication, Mr. N. R. Howse of Orange was sued by a patient last December to recover compensation for injuries received by being burnt by hot bottles at a private hospital, when the jury returned a verdict for the plaintiff with damages of £50. Mr. Howse appealed and the verdict was set aside with costs as being against the evidence. The Chief Justice said that he was unable to see evidence of negligence. The application of the hot bottles probably saved the patient's life. The action was most ungracious and should not have been brought.

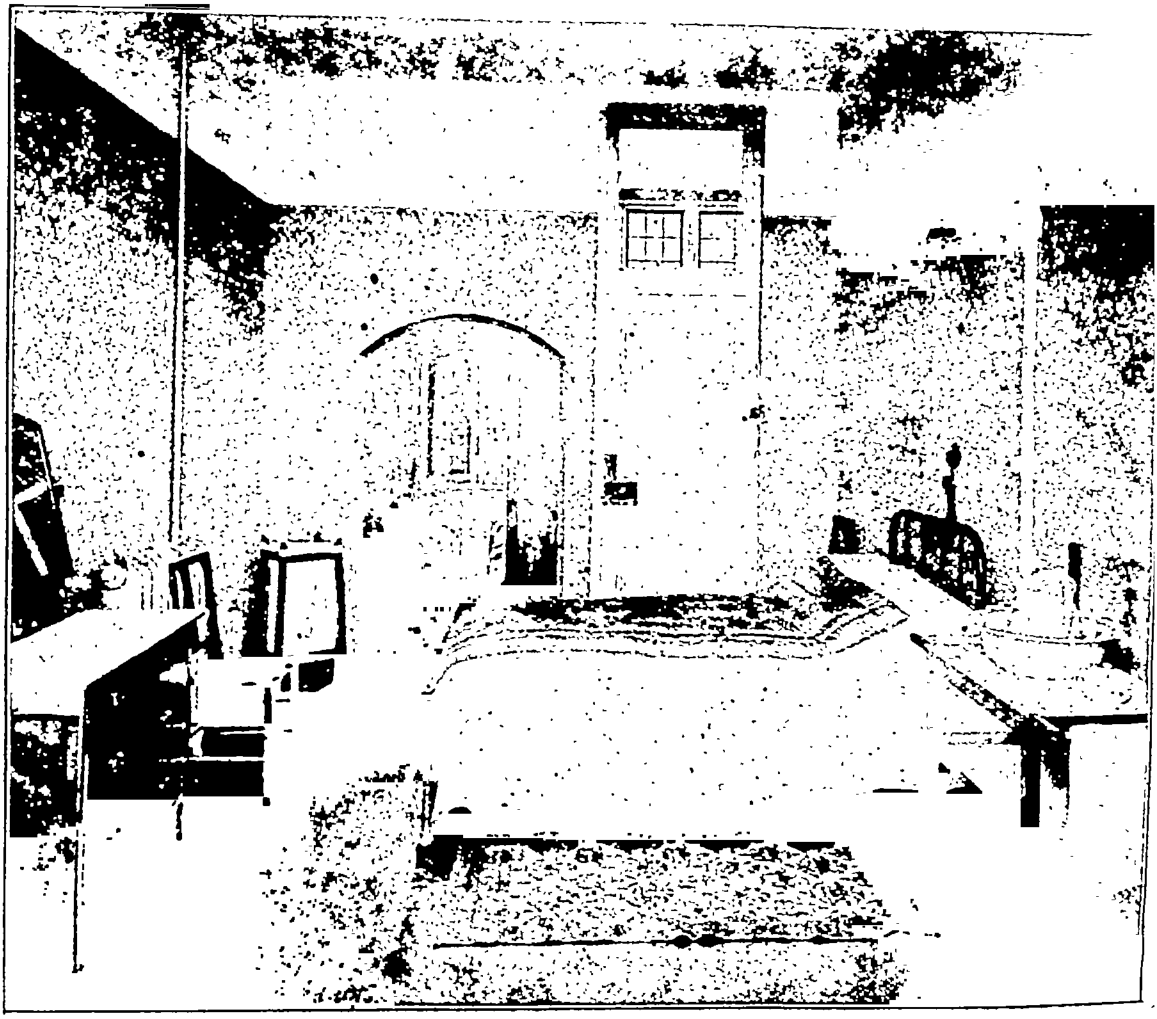
Charge against Dr. Marshall: Validity of Dying Depositions.

Dr. Frederick William Marshall of Sydney was tried at the Central Criminal Court on March 27th and acquitted on a charge of murder. The case for the Crown was that the deceased girl, a nurse, had an illegal operation performed by Dr. Marshall and died in consequence, the post-mortem examination showing the cause of death to be septicæmia following on a recent abortion. The deceased's dying depositions were put in which implicated Dr. Marshall, and the magistrate who took them said that Dr. Marshall was present on the following day when the deposition was read over and he was asked if he desired to ask any questions. The deceased said that Dr. Marshall was the person referred to in her statement. The judge ruled that the deposition was not admissible. The Act was very explicit that depositions should be served on accused persons as soon as practicable. In this case some hours elapsed. The Crown then tendered the deposition as a declaration by a person since deceased, but the judge again ruled it inadmissible. Without the depositions, of course, there was only circumstantial evidence. Technical protection of crime of this kind has, fortunately for the public weal, been set aside in a similar case by a recent decision of the High Court. A woman named Margaret Jackson was convicted by a jury of manslaughter, arising out of the death of a patient after an abortion, and was sentenced to six years' imprisonment. The Full Court annulled the verdict on the ground that the deceased's dying depositions were admitted and should not have been because certain words said to have been uttered were omitted and this omission rendered the whole document informal. The High Court has now decided that the depositions were admissible for what they were worth and the conviction was sustained.

May 12th.

THE KING'S SANATORIUM.

WE gave last week an account of the King's Sanatorium, which was opened on June 13th, and mentioned that the furniture of the patients' rooms, of which there are exactly 100, had been supplied by Messrs. Heal and Son of Tottenham-court-road, London, W. While specially designed to meet the requirements of a sanatorium for patients, the furniture is not of such a style as to suggest hospital surroundings. It is mainly made of polished birch and considerable artistic skill has been employed in fashioning it. In order to prevent lodgment of dust all the surfaces and joints have been made flush and mouldings have been avoided; the wardrobes have domed roofs and all interior angles of drawers and cupboards are rounded off. Each article of furniture is well raised from the floor on legs to facilitate cleaning. The tops of the washstands, with the shelves beneath and the screens at the back, and the tops of the bedside lockers are all made of glass and are removeable. The cupboards of the ward lockers have openings to insure vent tion. The place of the usual linen basket is taken a soiled-linen stand and bag; this bag (which is made coarse Irish linen) can be removed from the ward to laundry without the necessity, and accompanying risk, disturbing its contents as the bag hangs on a frame stand and is lifted off when full and replaced by another on the same stand. Open joints are avoided in the frames of the bedsteads and the springs of the mattress are diagonally arranged instead of being straight, thus securing an even distribution of strain and increased durability.



A typical bedroom in the King's Sanatorium.

MEDICINE AND THE LAW.

Burial Grounds and Dwelling Houses.

AN extraordinary state of affairs might possibly arise in many districts should the recent decision of the Court of Appeal in the case of Godden *v.* the Hythe Burial Board be left undisturbed in the presumably possible event of an appeal to the House of Lords, although, no doubt, an amendment of the law by Act of Parliament would set matters straight. The Burials Act provides that no burial shall take place within 100 yards of a dwelling house without the consent of the occupier, by which it was probably intended that dwelling houses in actual existence should be protected against such deterioration of their value as might be expected to arise from the opening of new burial grounds in their vicinity. In the case in question, however, the plaintiff built a house within 100 yards of a burial ground already in existence and then proceeded to obtain an injunction from Mr. Justice Kekewich against burials continuing to take place within the prescribed distance from his dwelling. It was pointed out in argument before the Court of Appeal that if this decision of the court below were held good every burial board desirous of using an acre of ground for burial purposes would have to acquire no less than 12 acres in order to be sure of being able to keep it open; and it is quite clear that otherwise any person acquiring enough land to build a cottage on might close a burial ground and that intolerable inconvenience and expense to a large district might be caused in circumstances quite easy to imagine. The Court of Appeal, however, seems to have found that the Burials Act was so clearly worded on the point that there was no way in which they could uphold the view, which certainly seems consistent with common sense, that the Act only referred to houses already built when the cemetery was first used. They saw the hardship of the case and Lord Justice Vaughan Williams said that he could not believe that the intention of the legislature had been rightly expressed by the Act, but they had so little doubt in the matter that they did not find it necessary to call upon the counsel representing the respondent, the plaintiff in the case, to argue.

Medical Assistance in Drafting a Code.

At a recent meeting of the French Academy of Medicine a professor of medical jurisprudence referred to the proposed amendment of the Code Civil. The task of reporting upon the necessary amendments of the Code has been assigned to commissioners, among whom are to be found senators, members of the Chamber of Deputies, professors of law at the universities, and three literary men, but not a single physician is included. The learned professor enumerated several chapters of the Code with regard to which the opinion of a physician would be most valuable—questions relating to pregnancy and the birth of children, the expectation of life, marriage, divorce, and proof of death; questions relating to sound mind, memory, and understanding; and questions as to the presumption of survivorship. The medical profession made no claim to legal knowledge but were justified in thinking that their assistance would be useful if the Code was to be amended with a due regard to justice, equity, and scientific precision. English draftsmen, says the *Solicitors' Journal*, may consider that these observations are open to some criticism but they will probably think that medical men have as much right to be included in such a commission as men whose only claim is that they have achieved distinction in literature.

THE SECOND ANNUAL CONVERSAZIONE OF THE ROYAL SOCIETY.

THERE was a brilliant gathering in the rooms of the Royal Society on Wednesday last on the occasion of the second annual conversazione to which it is the custom to invite lady visitors. The display of scientific exhibits was unusually small but the organising committee had evidently decided to make the few exhibits that there were attractive not only to the scientific but to the lay mind also. Many of the exhibits of the previous conversazione were repeated and we need not refer to them. There were, however, fewer exhibits of a directly medical interest.

Perhaps Sir William Crookes's demonstration by means of the lantern attracted the greatest attention. His experiments illustrating the extraordinary properties of the diamond were carried out with great success and evoked considerable applause. He showed the "sprouting" of graphite and its change into ordinary charcoal and he demonstrated also the change of the diamond into graphite and amorphous carbon under the influence of the heat of the electric arc. He also illustrated the extreme hardness of the diamond by pressing it into steel just as a nut can be pressed into butter. Sir James Dewar exhibited his apparatus with which he produces remarkably high vacua by using charcoal cooled in liquid air. Tubes containing helium, neon, krypton, and xenon separated by charcoal from air were shown. A very interesting exhibit was that of Mr. R. G. Durrant, in which evidence was forthcoming showing that ionic separation occurs when solutions of acids or of salts are allowed to diffuse into sensitised jellies or solutions. Thus acids when they diffuse into jellies coloured with blue litmus produce a purple zone in advance of the diffusion field, and (where the acid has a bleaching anion) a yellow-red zone behind the diffusion border. A test of considerable importance in regard to the stability of explosives was illustrated by Dr. O. Silberrad and Dr. R. C. Palmer, of the Royal Arsenal Laboratories. Cordite and other propellant explosives decompose gradually on storage and may eventually ignite if their stability is not tested from time to time. In the test 50 grammes of the explosive are maintained at 70° C. in a glass vessel fitted with a mercury pressure gauge, so that any alteration in pressure may be observed. A contraction takes place at first owing to the absorption of oxygen from the air and subsequently a gradual expansion occurs. The test has been adopted by the service and will shortly be made use of as a safeguard against spontaneous explosions in powder magazines, particularly in the tropics where the deterioration takes place most rapidly. Dr. G. T. Moody showed specimens illustrating the negative behaviour of oxygen towards iron in presence of water and the effect of the admission of carbonic acid. Iron remains perfectly bright in the presence of water and oxygen so long as carbonic acid is absent. The moment, however, that carbonic acid gas is admitted rusting immediately takes place. A very pretty exhibit was that of Dr. F. D. Chattaway, consisting of copper mirrors obtained by the depositions of metallic copper upon glass. Their rich lustre is very beautiful. There were several examples shown of colour photography and it is evident that very distinct progress is being made in this interesting branch of practical study.

Apart from the attractions afforded by the exhibits, the rooms of the society were most beautifully decorated with flowers and the reception by the President, the Right Hon. the Lord Rayleigh, O.M., D.Sc., D.C.L., and Lady Rayleigh was a brilliant scene.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.
Traité d'Hygiène. Publié en Fascicules sous la Direction de MM. P. Brouardel et E. Mosny. III.: Anthropologie, Hygiène Individuelle, Education Physique. Par R. Anthony, E. Dupré, P. Ribierre, G. Brouardel, M. Boulay, V. Morax, et P. Lafeuille. Price Fr. 6.

BARTH, JOHANN AMBROSIUS, Leipzig.
Lehrbuch der Organischen Chemie für Mediciner. In Siebzehn Vorträgen. Von Dr. Chem. et Med. G. v. Bunge, Professor in Basel. Price M. 7.; geb., M. 8.25.

FISCHER, GUSTAV, Jena.
Die Untersuchung der Faeces auf Blut. Von Otto Schumm Chemiker am Allgemeinen Krankenhause Hamburg-Eppendorf. Price M. 1.50.

HOEPLI, ULRICO, Milano, Italy.
Pneumonite Crupale, con Speciale Riguardo alla sua Cura. Dott. Antonio Serafini. Price L. 2.50.
Prontuario di Posologia dei Rimedi più usati nella Terapia Infantile. Dott. Antenore Conelli. Price L. 2.
I Principi Fondamentali della Antropologia Criminale. Guida per i Giudizi Medico-Forensi nelle Questioni di Imputabilità. Dott. Giuseppe Antonini, Direttore del Manicomio Provinciale di Udine, Libero Docente in Psichiatria. Price L. 2.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.
Étiologie et Pathogénie des Hémorrhagies Graves du Nouveau-Né. Par le Docteur P. Lequeux, Licencié ès-Sciences, Ancien Interne des Hôpitaux de Paris. Price not stated.

VOGEL, F. C. W., Leipzig.
Handbuch der Kinderheilkunde. Ein Buch für den Praktischen Arzt. Herausgegeben von Prof. Dr. M. Pfaundler in München und Prof. Dr. A. Schlossmann in Düsseldorf. 2 Bände. Band I. 1 und 2 Hälfte. Preis M. 30.

LITERARY INTELLIGENCE.—Messrs. Everett and Co. announce for publication this week "The Elements of the Practice of Comparative Medicine," by George Gresswell, L.R.C.P., L.R.C.S. Edin., and F. T. Barton, M.R.C.V.S. The work will be published at 5*s.* net.

EYESIGHT OF CHILDREN ATTENDING ELEMENTARY SCHOOLS IN LONDON.—A letter has been communicated to the press by the Duchess of Albany asking for public support on behalf of the Association for Supplying Spectacles to Children in Elementary Schools in London. The association proposes to help the London County Council by arranging for the supply of glasses for school children at wholesale prices to the children's parents while in cases of real poverty pecuniary assistance will be given for the purchase. The spectacles will only be supplied on a medical man's prescription and it is stated that the plan has received the approval of the London County Council, of a large proportion of the hospitals in London, and of many interested in education. But to carry out its object the association is now asking for additional financial support and those who are willing to help it are requested to send their subscriptions to the honorary treasurer, Miss Adler, 6, Craven-hill, Bayswater, London, W., or to apply for any further information which they may require on the subject to the honorary secretary, Miss Susan Lawrence, 44, Westbourne-terrace, Hyde Park, London, W.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts received at the Mansion House, or notified directly to us as having been collected, on behalf of the Metropolitan Hospital Sunday Fund up to Thursday morning, when the sum paid in exceeded £15,000.

	£	s.	d.
St. Michael's, Chester-square, per Canon Fleming	1353	0	0
William Herring, Esq.	1000	0	0
St. Paul's Cathedral	439	0	0
St. Peter's, Cranley-gardens	334	0	0
Christ Church, Chislehurst	223	0	0
Messrs. Watts, Watts, and Co.	210	0	0
W. D. Graham-Menzies, Esq.	200	0	0
A. G. P.	200	0	0
Delta	200	0	0
St. Michael's, Paddington	162	0	0
Aldenham Church	105	0	0
St. Mary's, Shortlands	101	0	0
Kensington Congregational Chapel	101	0	0
Miss Arden	100	0	0
"F. G. D."	100	0	0
Messrs. J. S. Morgan and Co.	100	0	0
Alex. Miller, Esq.	100	0	0
Anon.	100	0	0
St. Andrew's Presbyterian Church, Frognal	84	0	0
St. Anne's and St. Mary's, Wandsworth	83	0	0
St. Augustine's, Queen's-gate	71	0	0
St. George's, Perry-hill	61	0	0
St. Luke's, Kidderpore-avenue, Hampstead	60	0	0
Congregational Church, Bromley, Kent	60	0	0
St. John's, Putney	59	0	0
Holy Trinity, Eltham	58	0	0
Christ Church, Newgate-street	53	0	0
Messrs. Vavassour and Co.	52	10	0
St. Andrew's, Stoke Newington	52	0	0
Per Rev. W. R. Finlay—			
Mrs. Gooch	50	0	0
G. P. Gooch, Esq., M.P.	50	0	0
Miss M. E. Bruce	50	0	0
F. Fleischmann, Esq.	50	0	0
The Earl of Cranbrook	50	0	0
St. John's, Sidcup	44	0	0
Hornchurch Church, Essex	43	0	0
St. Michael's, Betchworth	42	0	0
St. Paul's, Wimbledon Park	42	0	0
Finchley Parish Church	39	0	0
St. Mary's, Hayes	37	0	0
St. Matthew's, Westminster	37	0	0
All Saints', Friern Barnet	37	0	0
Christ Church, Wanstead	35	0	0
Chiswick Parish Church	35	0	0
St. Mary's (old church), Stoke Newington	35	0	0
St. Luke's, Hornsey	32	0	0
St. George's, Bloomsbury	31	0	0
C. W. Drabble	30	0	0
Chislehurst Wesleyan Church	29	0	0
St. Anne's, Highgate-rise	29	0	0
Baptist Church, Bloomsbury	29	0	0
Carmelite Church, Kensington	27	0	0
Effra-road Unitarian Church, Brixton	26	0	0
H. Dent Brocklehurst, Esq.	25	0	0
Miss de Wend	25	0	0
Duke of York's School	25	0	0
St. James's, Knatchbull-road	24	0	0
Upper Holloway Baptist Church	24	0	0
Finsbury Park Congregational Church	24	0	0
Magdalen Hospital Chapel, Streatham	23	0	0
St. Giles's, Camberwell	21	0	0
Epsom Parish Church	21	0	0
Holy Trinity, Dartford	20	0	0
Northaw Parish Church	17	0	0
Baptist Chapel, Woodberry Down	16	0	0
St. Jude's, East Brixton	16	0	0
St. Stephen's, Hounslow	16	0	0
Holy Trinity, Lamorbey	15	0	0
Wesleyan Church, High-street, Clapham	15	0	0
Wesleyan Chapel, City-road	14	0	0
Trinity College Mission, Camberwell	14	0	0
St. Giles's, Farnborough	13	0	0
St. Saviour's, Walthamstow	12	0	0
All Saints', Sydenham	12	0	0
West Molesey Parish Church	11	0	0
St. Thomas's, Camden Town	11	0	0
St. Lawrence's, Whitchurch	11	0	0
Congregational Church, Lavender-hill	11	0	0
St. Martin's, Ruislip	11	0	0
St. Dominic's Priory, Haverstock-hill	10	0	0
Theydon Bois Church, Essex			

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The Council of the Royal College of Surgeons of England on June 14th conferred the diploma of Fellow on 16 candidates who had successfully passed the final examination held on May 18th, 21st, 22nd, 23rd, 24th, and 25th, for which 49 candidates presented themselves. The following are the names of the gentlemen on whom the Fellowship was conferred :—

Edward Victor Hugo, Major I.M.S., M.D., B.S. Lond., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; William Graddon Mortimer, M.B., B.S. Lond., M.R.C.S, L.R.C.P., London Hospital; William Paynter Noall, M.B., B S. Lond., M.R.C.S, L.R C.P., Manchester University and London Hospital; George Irvine Thompson Stewart, M.B., C.M. Aberd., M.R.C.S., L R.C.P., Aberdeen University and St. Thomas's Hospital; Arthur Falconer Hayden, Lieutenant I.M.S., M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Mary's Hospital; Harold Edward Ridewood, M.D. Lond., M.R.C.S., L.R.C.P., London Hospital; Ernest Ward, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C P., Cambridge University and London Hospital; Alexander Moxon Webber, M.B., M.S. Lond., M R.C.S., L.R.C.P., Guy's Hospital; Percival Pasley Cole, M.R.C.S, L.R.C.P., L.D.S. Eng., Guy's Hospital; George Rammell Footner, M B., B C. Cantab., M.R.C.S, L.R.C.P., Cambridge University and St. Thomas's Hospital; William Mayhew Mollison, M.A., M.C. Cantab., M.R.C.S, L.R.C.P., Cambridge University and Guy's Hospital; William John Ogilvie Malloch, B.A., M.B. Toronto, M.R.C.S., L.R.C.P., Toronto University and London Hospital; James Alane Coupland, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Leeds University; Vivian Bosse Bennett, Capt. I.M.S., M.B., B.S. Lond., Liverpool University, St. Thomas's, and St. Bartholomew's Hospitals; George Greig Farquhar, M.B., Ch.B. Aberd., Aberdeen University and London Hospital; and Duncan Campbell Lloyd Fitzwilliams, M.D., Ch.B., F.R.C.S. Edin., Edinburgh University and London Hospital.

The following gentlemen having successfully passed the examinations for the Licence in Dental Surgery and having complied with the by-laws, the Licence has been conferred upon them by the Council of the College :—

Oswald Harry Anderson, Liverpool University; James Essington Oswald Brawn, Guy's Hospital; Charles Sydney Brown, Birmingham University; Hugh Gordon Clark, Guy's Hospital; Horace George Codner, Charing Cross and Royal Dental Hospital; George William Collinson, Manchester University, Wilfrid James Parsons Dicks, Guy's Hospital; Sidney Gilbert Elliott, Guy's Hospital; Walter Elwood, Guy's Hospital; Roland Pitt Fenn, Guy's Hospital; William Edward Freeman, Guy's Hospital; Cecil Charles Freer, Guy's Hospital; Francis John Gillett, M.P.S., Guy's Hospital; Joseph Cecil Harris, Birmingham University; Oliver William Heald, Manchester University; John William Hindle, Manchester University, Frank Maurice Holborn, Guy's Hospital; William John Jones, University College, Bristol; Charles George Gordon Lewis, Guy's Hospital; Hugh Widenham Mace, Liverpool University; Horace Edmund Marsh, Guy's Hospital; Joseph Wesley Meadows, D D.S Pennsylvania, Guy's Hospital; George Kelsey Breward Neal, Charing Cross and Royal Dental Hospitals; William Charles Palk, Middlesex and National Dental Hospitals; John Hodson Parsonage, Manchester University; Edward Spencer Pierrepont, Guy's Hospital; Arthur Thomas Pitts, Middlesex and Royal Dental Hospitals; Horatio Leonard Power, Guy's Hospital; William Henry Plowman, Guy's Hospital; Walter Rose, Middlesex and National Dental Hospitals; Harold Simms, M.B., Ch.B. Vict., Guy's Hospital and Manchester University; Frederick Smith, Sheffield, Charing Cross, and Royal Dental Hospitals; Albert Spray, Charing Cross and Royal Dental Hospitals; Greenwood Stansfield, Liverpool University; Thomas Cowley Stephen, Manchester University; Cyprian Herbert Taylor, Middlesex and National Dental Hospitals, and Ernest Wright, D.D.S. Pennsylvania.

UNIVERSITY OF CAMBRIDGE.—At a congregation on June 14th the following degrees were conferred :—

M.D.—H. T. Thompson, Christ's.

M.B.—W. P. Lowe, Caius; and J. W. E. Cole, Corpus.

M.B. and B.C.—M. Grundy, G. H. K. Macalister, and G. A. Ticehurst, all of St. John's; and R. F. V. Hodge, Emanuel.

B.C.—J. McIntyre, King's; C. R. F. Hall, Trinity; H. C. Cameron, St. John's; G. H. Harper-Smith, Caius; and A. S. M. Palmer, Jesus.

UNIVERSITY OF BIRMINGHAM: FACULTY OF MEDICINE.—At the third examination for the *degrees* of M.B., Ch.B., held in June the following *candidates* were *successful* in the subjects indicated :—

Part I. (*Pathology and Bacteriology*).—J. Adams, Charlotte Bailey, *J. Dale, G. H. C. Mold, D. P. Smith, and E. V. Whitby.

Part II. (*Materia Medica and Practical Pharmacy*).—*Class I.*: J. Adams, *J. Dale, H. A. Evans, and E. V. Whitby. *Class II.*: Charlotte Bailey.

* Recommended for the Queen's Scholarship of ten guineas awarded to the candidate taking the highest place at the examination.

In the final examination for the *degree* of *B.D.S.* (*Department of Dentistry*) the following candidate was successful :—

Class I.—William Bowater.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. R. Henneberg, *privat-docent* of Psychiatry, has been granted the title of Professor, and Dr. Seiffer, Senior Medical Officer of the Clinic for Mental Diseases, has been appointed Professor.—*Buenos Ayres:* Dr. Pascual Palma has been appointed Professor of Surgery.—*Cologne (Academy of Practical Medicine):* Dr. Heinrich Füth of Leipsic has been appointed to the chair of Midwifery.—*Naples:* Dr. Rummo of Palermo has been appointed Professor of Clinical Medicine, Dr. Emilio Cioffi has been recognised as *privat-docent* of Internal Pathology, Dr. Onofrio Fragnito as *privat-docent* of Neurology and Psychiatry, Dr. Francesco Leuzzi as *privat-docent* of Anatomy, and Dr. Santi Rindone as *privat-docent* of Surgery.—*Padua:* Dr. Vitale Tedeschi has been appointed Extraordinary Professor of Pediatry.—*Philadelphia (Jefferson College):* Dr. George McClellan has been appointed Professor of Anatomy.—*Prague (German University):* Dr. Franz Erben has been recognised as *privat docent* of Medicine and Dr. Wilhelm Wleihowski as *privat-docent* of Pharmacology.—*Rome:* Dr. Agostino Pasini has been recognised as *privat-docent* of Dermatology and Dr. Giuseppe Quattrociocchi as *privat-docent* of External Pathology.—*Rostock:* Dr. O. Büttner, *privat-docent* of Midwifery and Gynæcology, has been granted the title of Professor, and Dr. J. Meinertz has been recognised as *privat-docent* of Internal Medicine.—*Strasburg:* Dr. Ernst Friedmann has been recognised as *privat-docent* of Physiological Chemistry, and Dr. Karl Spiro, *privat-docent* of Physiological Chemistry, Dr. Edwin Faust, *privat-docent* of Pharmacology, Dr. Albrecht Bethe, *privat-docent* of Physiology, and Dr. Julius Klein, *privat-docent* of Gynæcology, have been granted the title of Professor.—*Vienna:* Dr. Karl Hochsinger has been recognised as *privat-docent* of Anatomy and Dr. Franz Hamburger as *privat-docent* of Children's Diseases.

THE BRITISH MEDICAL ASSOCIATION IN CANADA.—The local committee of the British Medical Association, which this year will hold its meeting at Toronto from August 21st to 25th, is making arrangements to enable European visitors to Canada to see the vast extent of the wheat-fields on the Pacific coast and the magnificent scenery and mining facilities in the Rockies. To prevent the obvious difficulties of carrying several hundred people by special train across the Dominion it has been decided to form groups of from 18 to 25 visitors who will be provided with special sleeping cars and to enable this to be done the local committee requests that the names of intending visitors may be sent to the honorary local secretaries, Medical Building, Toronto, at an early date. If possible the complete list of names of a group wishing to travel should be sent in at the same time. If groups of only 10 or 12 names are sent in the committee will endeavour to couple certain groups of the British, Canadian, and American visitors in the hope of increasing the mutual interest and enjoyment of the trip. The cost for the round trip from Toronto will be $67.75 (£13 11*s.*).

WE are informed by the Equipoise Couch Company that by command of the Queen an "Equipoise" couch has been sent to Buckingham Palace for Her Majesty's inspection.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Nurses' Registration Bill.

Mr. MUNRO FERGUSON has presented a Bill in the House of Commons to regulate the qualifications of trained nurses and to provide for their registration. The Bill is supported by Dr. MACNAMARA, Mr. ROSE, Sir JOHN KENNAWAY, Mr. A. W. BLACK, Mr. EVE, Mr. FELL, Mr. CROOKS, and Mr. MCKILLOP.

HOUSE OF LORDS.

MONDAY JUNE 18TH.

On the motion of Lord DENMAN it was agreed that the Select Committee appointed to consider the Juvenile Smoking Bill should be empowered to consider the question of juvenile smoking generally and its effect on the physical condition of children; and to report whether any, and, if so, what, alterations in the law are desirable or practicable with a view to stopping the sale of tobacco and cigarettes to children below a certain age.

HOUSE OF COMMONS.

THURSDAY, JUNE 14TH.

Control of Food Manufactories.

Mr. COOPER asked the President of the Local Government Board whether there was any Local Government Order, or regulation, or by-law, requiring the makers of sausages, brawn, potted meats and paste, meat pies, &c., or of similar articles of food, to register their premises with any public authority, or which limited the hours of their manufacture to the hours during which inspectors were by legal custom allowed to enter, viz., 6 A.M. to 9 P.M.—Mr. JOHN BURNS said: The answer is in the negative. The Local Government Board has no power to make any such requirement as that suggested.

Vaccination.

Mr. LUPTON asked the President of the Local Government Board whether he would request the various medical officers of health throughout the country to ascertain the vaccinal conditions of all small-pox patients, not merely by verbal inquiries or by examination for marks of vaccination but also by examination of the registers to ascertain whether the patient had been registered as vaccinated.—Mr. JOHN BURNS replied: Such an examination of the vaccination registers as that suggested would involve considerable trouble and some expense, and in a great many cases it would be impracticable. The majority of small-pox patients are adults whose vaccination, if any, took place at a remote and uncertain date and often in another and perhaps distant place, many of these patients being persons of vagrant habits. It forms no part of the duty of the medical officers of health to make the proposed examination and I did not feel that I could ask them to undertake it.

Mr. LUPTON also asked the President of the Local Government Board whether it was a practice in the small-pox hospitals of the Metropolitan Asylums Board and of authorities in charge of small-pox hospitals throughout the country and of medical officers of health, in reference to small-pox patients, to have the vaccination registers searched in order to ascertain authoritatively the vaccinal conditions of small-pox patients.—Mr. JOHN BURNS answered: No, Sir; I believe not.

Mr. LUPTON further asked the President of the Local Government Board whether it was the practice for all vaccinations at all ages, and revaccinations, to be registered in public registers, and, if not, whether he would direct that all revaccinations performed at the public expense shall be entered in a register, and also address a request to private practitioners to cause all cases of revaccination, which were not at the public expence, and of primary vaccination where not previously registered to be registered.—Mr. JOHN BURNS replied: Every public vaccinator is required to enter in his vaccinators' register all vaccinations and revaccinations performed by him at the public expense. It would be advantageous if private medical practitioners kept similar records but I have no authority to ask them to do so. Every medical man, however, whether a public vaccinator or not, is required by the Vaccination Acts to give a certificate of the vaccination of any child successfully vaccinated by him. The certificate has to be sent to the vaccination officer for entry in the register kept by that officer.

Suggested State Medical Staff for Schools.

Mr. KEIR HARDIE asked the President of the Board of Education whether he contemplated the creation of a special State medical staff to supervise the efforts of local educational authorities for attending to the health and physical condition of the children educated in the public elementary schools.—Mr. BIRRELL replied: The Board of Education is only responsible in respect of England and Wales. It already possesses one medical inspector of schools and I am contemplating the appointment of a second. I do not think it would be wise for the Board to embark upon the establishment of a large staff of such officials, at all events until there has been time to see to what extent the development of local authorities' activities under Clause 35 (*b*) of the Education Bill renders such a course desirable.

[The subsection of Clause 35 referred to provides that the powers of a local education authority shall include "power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools."]

MONDAY, JUNE 18TH.

Infantile Mortality.

Mr. WEDGWOOD asked the Secretary of State for the Home Department whether in view of the National Conference on Infantile Mortality and the speech there delivered by the President of the Local Government Board, in which he attributed infantile mortality and other evils largely to the employment of married women three months before and six months after childbirth, he would consider the possibility of dealing at an early date with this subject.—Mr. GLADSTONE answered: The question is one attended by many difficulties both as regards the enforcement of, and the possible results of, such a prohibition as is suggested and I am not prepared to deal with it immediately. I am, however, fully aware of the great importance of the subject which has already been under consideration in connexion with the report of the Committee on Physical Deterioration and it will receive my attention in connexion with any amending factory legislation.

Mr. ALDEN asked the President of the Local Government Board whether he would call the attention of the boards of guardians, by circular or otherwise, to the rate of infantile mortality in many districts throughout the country and ask for their cooperation in reducing that mortality, especially by giving medical relief to infants whose parents were unable to provide it, without making such relief a debt.—Mr. JOHN BURNS answered: I have no reason to suppose that guardians are unwilling to afford medical relief for infants whose parents are unable to provide it, nor have I any evidence to show that where it is the practice to give medical relief on loan persons properly entitled to receive relief are thereby deterred from applying for it. It does not at present appear to me necessary to send a circular to all boards of guardians as suggested, but if my honourable friend is aware of any particular cases of failure to give relief to the infants of parents unable to provide it and he will communicate the facts to me I will further consider the matter.

Proposed Inspection of Foreign Meat.

Mr. STARKEY asked the President of the Board of Trade whether, having regard to the insanitary conditions under which American meat was prepared for the market and to the fact that several persons had recently died at Hull from eating Argentine meat, he would at once take steps to have each consignment of foreign meat, in tins or otherwise, inspected on arrival in this country; and whether he would also cause a certificate to be issued showing the date of such inspection.—Mr. JOHN BURNS said: My right honourable friend has asked me to reply to this question. I am not at present in a position to take the steps suggested by the honourable member but I am considering the question of obtaining further powers for dealing with food imported from abroad.

Irish Medical Officers and the Sanitary Condition of National Schools

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether any complaints had been received in regard to the manner in which officers of health in rural districts discharge their duties in connexion with sanitation of the out-offices attached to national schools and the premises generally.—Mr. BRYCE answered: The Local Government Board has not received any complaints that there has been failure of duty on the part of medical officers of health generally in regard to the sanitary arrangements of national schools. It is to be remembered that these buildings are periodically inspected by the inspectors of national schools whose reports are communicated to the managers of the schools.

Contagious Diseases in Irish National Schools.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland what means were at present in force to prevent children suffering from contagious diseases attending national schools in the ordinary way; whether any provision was made for the systematic medical inspection of pupils attending national schools in Ireland with respect to defective sight, hearing, or with regard to skin diseases; and, if not, whether he would direct the attention of the Commissioners to the matter.—Mr. BRYCE said. The Commissioners of National Education inform me that they direct the exhibition in every national school of a printed notice calling attention to the penalties for sending children to school who have been suffering from infectious disorders. The Commissioners have also recently sanctioned the exhibition in every national school of a poster calling attention to the dangers of consumption and the measures to be adopted to prevent the spread of the disease, and in a new edition of "Notes for Teachers" which the Commissioners are about to issue a special chapter is devoted to school hygiene and teachers are instructed as to the general signs of infectious diseases. The managers and teachers are empowered to exclude from national schools children suffering from infectious diseases. With regard to the last question, the answer is in the negative. The matter is already within the knowledge and consideration of the Commissioners.

Patients in Military Hospitals.

Mr. H. C. LEA asked the Secretary of State for War whether patients in military hospitals were required to do fatigue duties whether convalescent or not, and, if so, whether he would issue an Army Order to prevent the patients being ordered to do work of any kind, having in view the fact that all soldiers in military hospitals were placed under stoppages of pay to recompense the public for the loss of their services whilst under medical treatment, and that if he could not see his way to issue the order above referred to he would see to it that no man would have any deduction made from his pay on the day he had done any work whilst in an army hospital.—Mr. HALDANE replied: The King's Regulations empower officers in charge of hospitals to employ on light duties without extra pay patients whom they consider able to aid the hospital establishment. Patients are never employed on the ordinary heavy work incidental to hospital routine and not often on the lighter work authorised, which would be in the wards. The stoppages are intended to recompense the State for cost of maintenance and treatment.

Sickness in a Hull Workhouse.

Mr. KENNEDY asked the Secretary of State for the Home Department whether his attention had been called to the report of Dr. H. Robinson submitted to the Sculcoates (Hull) board of guardians on June 12th that there had been 35 cases of sickness with six deaths in the workhouse; what was the cause of death and what space of time did the medical officer's report cover.—Mr. JOHN BURNS replied Perhaps I may be allowed to answer this question I have seen a copy of Dr. Robinson's report dated the 5th inst. in which he stated that during the previous week there had occurred in the workhouse a serious outbreak of diarrhœa and sickness—in all about 35 cases, of which number six had died. He attributed these deaths to that cause. He considered that the outbreak was occasioned by the consumption of certain frozen meat. I understand that the matter has been inquired into by a special committee of guardians, which reports that it was not proved to its satisfaction that the frozen meat was the cause of the outbreak. It further reports that the meat was in a wholesome condition on delivery at the workhouse but that it had not been kept under proper conditions The guardians have not yet had an opportunity of considering this report

TUESDAY, JUNE 19TH.

Glasgow Post-office Medical Officer.

Mr. CLELAND and Mr. MITCHELL-THOMSON asked the Postmaster General what steps he proposed to take to fill the vacancy for the office of post-office medical officer for Glasgow.—Mr. SYDNEY BUXTON answered The district hitherto administered by the chief medical officer at Glasgow has been too large for administrative convenience and now that an opportunity for rearrangement has arisen it is proposed to divide the district into several separate sections. Until the scheme is decided upon I am unable to make an appointment.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARFORD, A. M., M.D., D.P.H., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to the Throat and Ear Department of the Portsmouth and South Hants Eye and Ear Infirmary.

BELL, R. H., M.R.C.S , L.R.C.P. Lond., has been appointed Physician to the Out-patient Department at the British Lying in Hospital.

BIRD, T. D., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of District B by the Thrapston Board of Guardians.

BROWNLEE, ALEX., F.R.C.S. Edin., has been appointed Honorary Anæsthetist to the Cardiff Infirmary.

GROSVENOR, R. L., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chelsea District of the County of London.

HEATH, A. DOUGLAS, M.D. Lond., M.R.C.P. Lond., has been appointed Dermatologist to the General Hospital, Birmingham.

LUCAS, GEOFFREY, B.A. Cantab., L.S.A., has been appointed Medical Officer of Health to the Ringwood Rural District Council.

PHILLIPS, HUBERT C., M.R.C.S. Eng., M. & L.S.A , has been appointed Medical Officer to the South District of Paddington.

PHILLIPS, JOHN, M.D. Cantab., F.R.C.P. Lond , has been appointed Consulting Physician to the British Lying in Hospital.

PRATT, JOHN W., L.R C P. Edin , M R.C S., has been appointed Deputy Medical Officer for the Radstock District by the Clutton (Somerset) Board of Guardians.

SHAW, W. VERNON, M.B., B.S. Oxon., has been appointed Medical Officer to the Malton Workhouse, York.

SPENCE, A. B., M.B., B.S. Edin , has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kinghorn District of the county of Fife.

THOMPSON, R., M.D. Durh., M.R.C.S., L.R.C P. Lond , has been appointed Assistant Surgeon to the Eye, Ear, and Throat Department of the Brisbane Hospital, Queensland, Australia.

TURNBULL, JANE H., M D , B.S Lond., has been appointed Senior Obstetric Assistant and Anæsthetist to the New Hospital for Women, London, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELFAST, PURDYSBURN FEVER HOSPITAL.—Resident Medical Officer. Salary £150. Also House Physician. Salary £125.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham road, S.W.—Assistant Physician.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board, washing, &c.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRIGHTON THROAT AND EAR HOSPITAL, Church street, Queen's-road.—Non resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. Salary £100, with residence, board, and washing.

CARDIFF ASYLUM.—Medical Superintendent. Salary £650 a year, with unfurnished house, light, coal, vegetables, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board and lodgings.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician for six months. Honorarium of £25, with board, residence, and laundry.

EGYPTIAN GOVERNMENT, MINISTRY OF EDUCATION.—Professor of Midwifery and Gynæcology. Salary £400 a year. Also Medical Tutor and Registrar to Kasr-el-Ainy Hospital. Salary £400 a year.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Radiographer. Salary £50 per annum. Also Clinical Assistants.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

EXMINSTER, DEVON COUNTY ASYLUM.—Assistant Medical Officer. Salary £140, with board, lodging, washing, and attendance.

FULBOURN, NEAR CAMBRIDGE, LUNATIC ASYLUM.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance

GLOUCESTER GENERAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeoncy for six months. Salary at rate of £30 per annum, with board, residence, and washing

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

HOSPITAL FOR SICK CHILDREN, Great Ormond street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50 per annum, with board and lodging

INDIAN MEDICAL SERVICE.—Examination for not less than Twenty Commissions.

ITALIAN HOSPITAL, Queen square, London, W.C.—Honorary Ophthalmic Surgeon.

LEICESTER INFIRMARY.—Refraction Assistant to the Ophthalmic Department.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Senior House Surgeon for three months. Salary at rate of £40 per annum, with board, laundry, &c.

METROPOLITAN ASYLUMS BOARD FEVER AND SMALL-POX HOSPITALS.—Assistant Medical Officers. Salary £160 per annum, rising to £240, with board, lodging, attendance, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon for six months, renewable. Salary at rate of £50 per annum, with board, residence, and washing.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

RAMSGATE GENERAL HOSPITAL AND THE RAMSGATE AND ST. LAWRENCE DISPENSARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, and attendance.

ROYAL EAR HOSPITAL, Dean-street, Soho, London, W.—Clinical Assistants.

ROYAL VETERINARY COLLEGE, Camden Town.—Professor of Biology. Also Lecturer on Physics.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Honorary Ophthalmic Surgeon.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—Demonstrator of Chemistry. Also Demonstrator of Physics. Salary in each case £150 per annum.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck street, Cavendish-square.—Honorary Surgeon.

SHEFFIELD ROYAL HOSPITAL.—Honorary Assistant Dental Surgeon.

SOUTH AFRICA, CAPE COPPER COMPANY, LIMITED.—Assistant Surgeon. Salary £250 for first year, with increase.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £70 per annum, with board, washing, and residence.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

WANDSWORTH UNION INFIRMARY, St. John's-hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

WOKINGHAM, BERKS, LONDON OPEN-AIR SANATORIUM, Pinewood.—Assistant Medical Officer. Salary £100 per annum and all found.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with rooms, board, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon under the Factory and Workshop Act at Ayton, in the county of Berwick, and at Hatherleigh, in the county of Devon.

Births, Marriages, and Deaths.

BIRTHS.

CARRELL.—On June 15th, at The Drive, Ilford, the wife of G. N. P. Carrell, L.R.C.P., M.R.C.S., of a son.

DOUGLAS.—On June 17th, at Wood-street, Walthamstow, the wife of Kenneth H. Douglas, M.R.C.S., L.R.C.P., of a son.

GASKELL.—On June 11th, at Briar's Hey, Stechford, Birmingham, the wife of Leonard S. Gaskell, M.B., B.C. Cantab., of a son.

SAW.—On June 15th, at 27, Junction-road, Southsea, the wife of Major F. A. Saw, R.A.M.C., of a daughter.

TURNER.—On the 17th inst., at The Chestnuts, Oundle, Northants, the wife of B. Roworth Turner, M.B., B.C. Cantab., of a son.

WETHERELL.—On June 17th, at the Old House, Ipswich, the wife of Frank Cordeux Wetherell, M.B. Lond., of a daughter.

WROUGHTON.—On June 15th, at Wetheral, near Carlisle, the wife of William Haultain Wroughton, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

MARRIAGES.

ADDINSELL—HOWELL.—On June 16th, at St. Mary's Church, Long Ditton, John Howard Addinsell, M.R.C.S. Eng., L.R.C.P. Lond., to Anna Marguerite (Peggy), eldest daughter of Bulmer Howell, of Cumbrae, Ditton Hill.

HUNT—DUTTON.—On June 20th, at Henfield parish church, by the Rev. H. W. Hunt, M.A., rector of Shermanbury and rural dean, father of the bridegroom, assisted by the Rev. L. Dutton, rector of Aspenden, Herts, uncle of the bride, Ernest Rivaz Hunt, M.A., M.D. Cantab., of 19, Dyke-road, Hove, Sussex, to Margery Mary, second daughter of the Rev. W. T. Dutton, vicar of Sidlesham, Sussex.

MILLAR—GRAHAM.—On June 15th, at Durban, South Africa, James Grant Millar, M.B., Ch.B., to Mary Lang, second daughter of the late Andrew Lang Graham and of Mrs. Graham.

DEATHS.

BINGER.—On June 12th, at Lansdown terrace, Cheltenham, Deputy Surgeon General Theobald Binger, M.D., I.M.S., late 7th Bengal Cavalry.

TROTTER.—On June 11th, at 4, St. Peter's-terrace, York, Surgeon-Colonel J. W. Trotter, late Coldstream and Scots Guards, eldest son of the late J. Trotter, M.D., of Durham.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ARE DOCTORS GREEDY?

WE commented under this heading in our issue of June 2nd, p. 1579, upon a report in the *Sheffield Telegraph* of a vulgar speech made before the Sheffield United Friendly Societies Council by a Mr. J. R. Bradwell, who accused medical men of acting like highway robbers and of being "insolent, contemptuous, and negligent of their duties." It appears that the correspondence arising out of Mr. Bradwell's pretty wit has been running ever since in the *Sheffield Telegraph*, for on June 15th a correspondent, writing above the signature "Surgeon," asks Mr. Bradwell some pertinent questions and points out that persons of Mr. Bradwell's way of thinking agree with the principles of trade unionism as far as they personally are concerned but not as far as their medical man is concerned. It is waste of time putting questions to uneducated people whose attitude towards the medical profession is dictated by jealousy of our professional status, but "Surgeon's" letter had a very good result all the same. For the editor of the *Sheffield Telegraph* has been moved by it to write an extremely sensible leading article upon the many vexed questions which have been discussed under the general heading of contract medical practice. In doing so he bears generous testimony to the altruism of the medical profession and points out that medical aid associations which attempt to sweat their medical men must suffer in the end. It stands to reason, he says, that if the associations underpay their medical officer or treat him badly they will only get poor medical attendance and will deserve it. These are the lessons that it is particularly valuable for the public to learn from lay papers. In medical journals such obvious truths lose their point because the public are so ready to believe that only the professional side of the matter has been taken into account. The badly managed medical aid associations, those which attempt "to keep the doctor in his place," as Mr. Bradwell and his like would probably describe the process of sweating to which we allude, are constantly quarrelling with and changing their medical men, from which arises the fact that their members can never receive proper medical attention. To give sound medical advice the medical man requires knowledge of the antecedents of his patients, and a spirit of mutual respect for each other is no small factor in much medical treatment. The poor ought to combine to obtain medical relief; in no other way can they pay at all for it, and it is quite easy to form a combination which works well for them and well for the medical profession. The present situation, however, arises out of the fact that a number of persons who have no claim on medical charity are determined to obtain medical assistance at starvation rates. When their claim is resisted they cry out loudly that the medical man is *greedy* (consult Mr. Bradwell for epithets) and as a result of these tactics the whole medical profession is coming to look askance at all forms of contract practice.

HOW TO BE HEALTHY.

DR. A. C. Magian has issued through Messrs. Merrin and Hayward of Manchester a pamphlet of 32 pages at the modest price of 1d., his object being to interest the ordinary "business man and woman in the subject of outdoor exercise as a means of becoming not merely strong but strong and healthy." The advice given is for the most part sensible and practical and deals with such things as exercise in the open air, food, dress, stimulants, worries, and so on. Especially to be commended are the author's advocacy of walking and his remarks on the care of the feet, which should be treated "with as much consideration as you would your face and hands." With regard to the "disgusting fraud perpetrated every day upon the public" by quacks and the vendors of injurious patent medicines the author is rightly of opinion that "these people ought certainly to be prevented by the police from practising upon unsuspecting persons who imagine them to possess special knowledge. The keynote of the whole pamphlet is, "When you are well do all that you can to keep yourself so; but when you are ill do not dilly-dally and put the matter off until, perhaps, it is too late for anyone to do you any good. Consult someone who is able to give you proper advice—and take it."

SEASIDE CAMPS FOR WORKING BOYS.

THE committee of the Seaside Camps for London Working Boys has issued an appeal to the charitable public through the press asking for a continuance of the support which has been accorded them for the past 17 years. The work that this committee carries out is most useful; it assists London working lads to obtain the holiday which they need to recruit their health and strength, and their life in camp forms a most useful moral training for those whose work or daily environment is not always of the best kind. Last year 2350 lads were received "at camp," 350 more than in 1904, and we understand that there is every indication of a yet larger number of applicants this summer. Contributions should be sent to the secretary, Mr. F. Abel Bloxham, 23, Northumberland avenue, W.C., or they may be paid directly to the bankers, Messrs. Cocks, Biddulph, and Co., 43, Charing cross, S.W.

A MEDICAL INSCRIPTION FROM ANCIENT EPHESUS.

ALTHOUGH medical science in Græco-Roman times was far behind modern knowledge, yet efforts were then made to propagate such discoveries as were from time to time achieved, and the means of making them known by conferences or congresses was apparently similar to those employed at the present day. This has recently been illustrated by means of some Greek inscriptions found upon stones, built into an ancient church at Ephesus, which have been published by Professor J. Keil in the Year-book of the Austrian Institute of Archæology. These texts record what may be termed victories in contests, or debates, between physicians, probably a description of public discussion such as took place over a "thesis" in the mediæval universities. It would appear, therefore, that the medical men of Ephesus, and probably of the province of which that famous city was the capital, had a society or association, connected with what in those days took the place of a modern hospital—namely, the town's temple of Asclepios. The contests enumerated at Ephesus in what remains of the medical inscriptions were in surgery, χειρουργία, inventions and the perfecting of surgical instruments; σύνταγμα, by which is possibly meant a medical essay or collection of essays; and, finally, πρόβλημα, which would be the statement and discussion, and, it is to be hoped, solution, of some medical problem specially proposed. There is a special title for some of the physicians enumerated in those inscriptions—that of ἀρχιατρός, which may mean medical men possessing public appointments as well as such as stood specially high in the profession. The date of these Ephesus texts is about 200 A.D.

THE GEORGE BROWN TESTIMONIAL FUND.

To the Editors of THE LANCET.

SIRS,—Will you kindly publish in THE LANCET the following list o subscriptions to the above fund? The fund is now closed.

I am, Sirs, yours faithfully,

June 14th, 1906. JNO. POLLOCK SIMPSON.

	£	s.	d.		£	s.	d.
Dr. Robert Crawford ...	0	10	6	Dr. E. B. Thomson	0	10	6
Mr. George Jackson ...	5	0	0	Mr. W. D. P. Swain ...	0	5	0
Mr. Edward Bartlett ...	0	10	0	Dr. S. Wilson	0	10	6
Mr. C. H. Miles	0	10	6	Mr. Charles A. Foyl ...	0	10	6
Mr. A. Cosgrave	0	10	6	Mr. Joseph B. Cook	0	10	6
Dr. R. B. Marjoribanks ...	0	10	0	Mr. A. Rivers-Willson ...	1	1	0
Mr. A. J. Carter	0	10	0	Dr. J. Pollock Simpson ...	1	1	0

DISTRIBUTION OF LIEGE EXHIBITION AWARDS.

THE awards to the British section of the recent Liège Exhibition were distributed on June 13th. The proceedings took place at the Mansion House and the Lord Mayor, Alderman W. Vaughan Morgan, occupied the chair. Mr. Imre Kiralfy, the British Commissioner-General, read a report upon the exhibition and the meeting was subsequently addressed by the Belgian Minister, Count de Lalaing, Sir Albert Rollit, M. Edouard Sève, Sir William Holland, and the Lord Mayor. The diplomas were then presented by Count de Lalaing. Messrs. Burroughs, Wellcome, and Co. received five awards of grand prix, three diplomas of honour, three gold medals, and one silver medal.

THE A. E. JONES FUND.

To the Editors of THE LANCET.

SIRS,—In forwarding the final list of subscriptions to the above fund allow me to say that the committee beg to thank those gentlemen who have contributed so generously. A cheque for the total amount will be presented to Dr. Jones on July 2nd. Due notice will be given to all those who have subscribed should they wish to be present.

I am, Sirs, yours faithfully,

June 19th, 1906. C. W. WINGMAN.

	£	s.	d.		£	s.	d.
Dr. G. B. Mower White ...	2	2	0	Anonymous...	1	1	0
Dr. W. Morriston Davies	1	1	0	K.	0	10	0
Dr. P. Maynard Heath ...	1	1	0	F. S.	0	10	6

COUNTRY IN TOWN EXHIBITION.

Her Majesty the Queen has given her patronage to the "Country in Town" Exhibition which will be opened by H.R.H. Princess Christian in the Whitechapel Art Gallery at 3.30 P.M. on July 5th. Plans for beautifying crowded areas in London will be on view and an endeavour will also be made to show how much of nature still remains in the metropolis or has been brought back to it by the preservation of open spaces and in other ways. Aquaria, vivaria, beehives, nesting boxes, fern cases, and flower tables will be exhibited and the subject of nature study in urban schools will be made prominent in various ways. A series of afternoon and evening lectures is also being arranged dealing with many subjects cognate to the idea that underlies the exhibition, such as gardens, garden cities and suburbs, tree-planting in London, bee-keeping, and natural history generally. The exhibition will be open until July 19th and as admission will be free contributions are invited towards the necessary expenses. All communications should be made to the honorary secretary, Mr. Wilfred Mark Webb, at Toynbee Hall, Whitechapel, E.

A LETTER signed "Etiquette" bearing an address at which no medical man appears to live can receive a reply when we are informed of the author's name.

Mr. D. Kerr.—We do not understand our correspondent's but we shall be happy to inspect a specimen of his invention.

L. H. would be glad to hear what is the usual custom as to fe certifying the cause of death to insurance companies.

T. L. H. should consult his or her family medical attendant.

ERRATUM.—In a leading article last week on "The Treatment of worm," page 1700, in the sixth line upwards from the end o second paragraph, for the words "acetate of starch" read " amyl." The error is obviously one of translation in the article.

COMMUNICATIONS not noticed in our present issue will receive in our next.

Medical Diary for the ensuing Week

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), S Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M. Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M West London (2.30 P.M.), London Throat (9.30 A.M.), Royal (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormon street (3 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), S Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Wes minster (2 P.M.), West London (2.30 P.M.), University Colle (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Thro (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golde square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Centr London Throat and Ear (2 P.M.), Children, Gt. Ormond stre (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University Colle (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cro (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's Colle (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M. National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samarita (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Wes minster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M. Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, G Ormond street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), S George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlese (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-We London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M. Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samarita (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Childre Gt. Ormond street (2.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), S Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charin Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), G Northern Central (2.30 P.M.), West London (2.30 P.M.), Londo Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-squar (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlese (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M. Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M. Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Children, G Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalm (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and th Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (25th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (2 Hanover-square, W.).—7 P.M.: Council. 8 P.M.: The President Valedictory Address. Report of the Delegates appointed to mee the Representatives of the "Union of Medical Societies" and Resolution will be moved. Short Papers:—Mr. J. F. Colyer: O Some Odontomes in the Museum of the Society (illustrated wit lantern slides).—Mr. F. L. Dodd: Some Notes on Oral Condition in Relation to Tuberculosis.

TUESDAY (26th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (2 Hanover-square, W.).—8.30 P.M.: Extra Meeting. Papers:—Dr. J. D Malcolm: Appendicitis and Gangrene of the Appendix considere as Separate Diseases.—Dr. StClair Thomson: Submucous Excisio of Deviations and Spurs of the Nasal Septum, with a Report of 5 Operations. (With epidiascope demonstration.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLI (22, Chenies street, W.C.).—4 P.M.: Dr. J. M. H. MacLeod: Clini (Skin). 5.15 P.M.: Lecture:—Dr. L. Williams: High Arte Tension and Some of its Consequences.

POST-GRADUATE COLLEGE (West London Hospital, Hammersm road, W.).—2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: Y 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lectu Diseases of the Tonsils (with lantern slides).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospi Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duck Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. St

Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Eden: Demonstration (Gynæcological). (Post-Graduate Course.)

UESDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. L. Williams: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. J. Morrison: Gynæcological.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture: Diseases of the Tonsils (with lantern slides).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. H. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Ferrier: Jacksonian Epilepsy.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M.: Dr. O. E. Harris: The Manufacture and Sophistication of Potable Spirits. (Lecture III.)

EDNESDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. H. L. Barnard: Clinique. (Surgical). 5.15 P.M.: Lecture:—Mr. A. W. M. Robson: The Surgical Treatment of Cancer of the Stomach.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. 5 P.M.: *Lecture*:—Practical Medicine.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. F. Taylor: Medicine. 3.15 P.M.: Mr. M. Robson: Surgery. 4 P.M.: Mr. Cargill: *Ophthalmology. Out-patient Demonstrations*:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.).—3 P.M.: Clinical Lecture:—Sir Victor Horsley: The Surgery of the Nervous System.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, W.C.).—5 P.M.: Demonstration:—Dr. D. Grant: Larynx.

HURSDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical). 5.15 P.M.: Lecture:—*Dr. Langdon Brown*: Purin Bodies and the Purinometer.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lecture:—Practical Surgery.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Fenton: Demonstration (Medical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M.: Lecture:—Dr. Voelcker: Some Common Errors in the Diet and General Hygiene of Childhood.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M.: Special Lectures:—Dr. S. M. Copeman: Cancer Prevalence.

'RIDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. Horne. Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture:—Diseases of the Cornea.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Bulbar Paralysis.

SATURDAY (30th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. *Out-patient Demonstrations*:—10 A.M.: Surgical and Medical. 11 A.M. Eye.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 21st, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 15	30·00	N.	0·02	94	59	50	50	52	Cloudy
" 16	29·95	N.E.	0·01	103	66	49	50	52	Cloudy
" 17	30·02	E.	0·10	113	68	52	53	57	Cloudy
" 18	30·13	S.W.	...	114	72	55	56	61	Hazy
" 19	30·25	W.	...	116	74	55	53	65	Fine
" 20	30·36	S.W.	...	125	61	57	61	67	Fine
" 21	30·33	W.	...	111	73	63	63	66	Overcast

During the week marked copies of the following newspapers have been received:—*Oldham Evening Chronicle, Herefordshire Mercury, Worcestershire Chronicle, Burnley Gazette, Yorkshire Herald, Yorkshire Post, Birmingham Post, Daily News, Edinburgh Evening News, Wolverhampton Midland Express, Wigan Observer, Westminster Gazette, Morning Advertiser, Newcastle Chronicle, Herts Mercury, Scientific American, &c.*

Communications, Letters, &c., have been received from—

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